

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVII.

SATURDAY, DECEMBER 12, 1885.

No. 24.

ORIGINAL LECTURES.

ON THE TREATMENT OF PAINFUL MENSTRUATION AND STERILITY FROM FLEXION.

A Clinical Lecture, delivered at the Hospital of the University of Pennsylvania.

BY WILLIAM GOODELL, M.D.,

PROFESSOR OF GYNECOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.

GENTLEMEN: While our patient is getting her ether in the waiting-room, let me give you her history. It is a history which will soon be to you as familiar as household words, whether you practise in cities or at cross-roads. She is a young woman who has been married eight years; but she has never conceived, and since puberty has suffered from very painful menstruation. Since her marriage, her periods, as is usual in such cases, have been getting more and more painful. At present, not only are they unbearable, needing large doses of opium, but she is yearning to become a mother.

Now, what lesions shall we probably discover in this case? Ten to one, a womb bent forward on itself, and a narrow uterine canal. True, the displacement may turn out to be a retroflexion, but this is a lesion almost peculiar to the childbearing womb, while antelexion is the natural condition of the nulliparous womb. Here, let me disabuse your minds of a prevalent error, viz., that antelexion in itself is a pathological condition. Many text-books speak of this flexion as a lesion, and exhibit many forms of pessaries devised to rectify this so-called displacement. But in the great majority of cases neither antelexion, nor, for the matter of that, anteversion, is pathological. In almost every unmarried or barren woman you will find the womb either bent forward or tilted forward, and resting on the bladder; for this in varying degrees is its natural position. The mistake made, is in attributing to this natural position of the womb the various forms of pelvic trouble, especially that of irritability of the bladder, to which women are so liable. But the kinship between the brain and bladder is a remarkably close one. This has lately been studied by two Italian physiologists, Mosso and Pellacani, who go so far as to contend that "every mental act in man is accompanied by a contraction of the bladder." The irritability of the bladder is then one of the first symptoms of loss of nerve control. Everybody is liable to it. You, on examination day, will be annoyed by it. Many a lawyer before pleading an important case, and many a clergyman just before delivering a discourse, is compelled from sheer nervousness to empty the bladder. So it is with the lower animals, which, when frightened, micturate involuntarily. A nervous bladder is then one of the earliest phenomena of nervousness. Now, a hysterical girl, or a woman whose nervous system has collapsed under the strain of domestic cares, consults a physician for such symptoms of nerve prostration as wakefulness, utter weariness, a

bearing down feeling, backache, and perhaps, above all, an irritable bladder. Upon making a digital examination, he, of course, finds the fundus of the womb resting on the bladder, and at once jumps to the conclusion that the whole trouble is due to the pressure of the womb on the bladder, viz., to the existing antelexion or to the anteversion, as the case may be. He now makes local applications and racks his brain to adapt or to devise some pessary capable of overcoming the supposed difficulty, forgetting that the upward, or shoring, pressure of the pessary on the bladder must be greater than the corresponding downward, or gravity, pressure of the womb. There is, in fact, no pessary but the dangerous stem-pessary which can meet the end without pressing upon a fold, or double thickness, of the bladder. But, very fortunately, antelexion is not often pathological. It is certainly not pathological in the foregoing instances; for the symptoms, especially the vesical ones, are not due to the pressure of the womb upon the bladder, but to sheer nervousness, or nerve prostration, which is the thing to be treated, and not the womb. There are exceptions to this rule, but not many; for instance, a womb, heavy from subinvolution or from the presence of a fibroid, may make uncomfortable pressure on the bladder.

If antelexion is the natural position and condition of the womb, when is it pathological? It is pathological whenever it is the cause of dysmenorrhœa or of sterility. Usually dysmenorrhœa and sterility are associated, but occasionally the latter is the only symptom; for it is evident that the crooked womb can more readily expel fluid contained within it, than admit a fluid outside of it. The phenomena of a typical case of dysmenorrhœa from antelexion or from retroflexion, are as follows: At the outset of menstruation, the first few drops are somewhat painful. The pain then increases in severity until, reaching its acme, a slight gush of menstrual fluid takes place, followed by a lull in the sufferings. The pain then gradually increases until it culminates in another gush. The meaning of this is, that the bend in the womb imprisons the menstrual fluid, which goes on collecting in the cavity until the swelling up of the womb straightens out the bent portion, dilates the narrow canal, and allows the pent-up contents to escape, just as the coils of a hose first swell and then straighten out before the water can flow through them. Relief from pain lasts until the fluid begins again to collect. This is called stenosis from angulation.

Sometimes a girl has little or no pain at her menstrual periods. She marries, does not conceive, and by and by dysmenorrhœa sets in, which goes on increasing. What is the explanation of this? It means that the flexed canal of the womb was originally just large enough to permit the slow escape of the menstrual fluid; but that the congestions from sexual intercourse have caused a thickening of the lining membrane of this canal, which has narrowed its calibre. Then again, the uterine efforts to force out the pent-up fluid cause the various tissues

of the womb to hypertrophy. We see this also in unmarried women, the dysmenorrhœa increasing with their age. Nature intends that the periodical congestions of the womb should be interrupted by pregnancy and lactation, and without these interruptions the mucous lining of the womb is liable to thicken, and by its thickness to narrow the canal. If then to these menstrual congestions be added the sexual congestions of marriage, this hypertrophy is greatly increased, and the barren wife suffers more than the old maid.

But here comes our patient. Let me examine her. Sure enough, she has an ante flexion, for through the anterior wall of the vagina I feel the body of the womb resting upon the bladder. The cervix is long and conical; the os externum very small.

I pass the sound. It stops, as you see, at the internal os,—viz., at the beginning of the bend,—and I cannot coax it in any further. By introducing the speculum, and straightening the womb by traction made with a tenaculum, the sound now goes in, but even yet with difficulty. It gives a measurement of nearly three and a half inches, which is a large measurement for a young woman who has not borne any children. This hypertrophy is owing partly to such repeated congestions as I have just described, and partly to the muscular effort made by the womb to extrude not only the menstrual fluid but its mucous secretions.

Now, what is the remedy for this condition? For a number of years the operation most in vogue was the cutting, or bloody operation of Sims. By it the canal is enlarged by incisions. But the objections to this plan are: that it is a dangerous operation, having caused the death of many patients through peritonitis; that it is not a very successful operation, as the incisions are liable to heal up and the dysmenorrhœa to return; and, finally, that it always deforms the cervix, and sometimes causes lesions analogous to those resulting from a natural laceration during labor. I shall not, therefore, burden you with the details of this operation, which fortunately is falling into disuse. Then again the cervix is, at the present day, often dilated by tents or by graduated bougies; but the former is dangerous, and both are painful, tedious, and unsatisfactory.

The operation which I can recommend to you most highly, and one which I shall now perform on our patient, is that of forcible dilatation. The instruments which I use are two modified Ellinger dilators of different sizes, made under my supervision by Messrs. J. H. Gemrig & Son, of this city. Ellinger's model is the best on account of the parallel action of the blades, which dilate the whole track of the canal uniformly. The smaller of these dilators has slender blades, and it pilots the way for the other, which is more powerful, having blades that do not feather. The lighter instrument needs only a ratchet in the handles, but the stronger one should have a screw by which the handles are brought together. Lest the beak should hit the fundus uteri and seriously injure it when these instruments are opened, their blades are made no longer than two inches, and are armed with a shoulder which prevents further penetration. The larger instrument opens to an outside width of one and a half inches, and its blades are roughened, or corrugated, by shallow grooves in order to keep them from slipping out. This dilator has also a graduated arc in

the handles by which the divergence of the blades can be read off.

In a case of dysmenorrhœa, or in one of sterility from flexion or from stenosis, as in the woman before us, my mode of performing the operation of dilatation is as follows: The patient is thoroughly anesthetized, and a suppository containing one grain of aqueous extract of opium is slipped into the rectum. She is then turned on her back, and drawn to the edge of the bed, each knee being supported by an assistant. The light must be good, so that the operator can see what he is about. My bivalve speculum being now introduced, the vagina is well swabbed out with a five per cent. solution of carbolic acid. By the aid of a strong uterine tenaculum, the cervix is steadied and the smaller dilator is introduced as far as it will go. Upon gently stretching open that portion of the canal which it occupies, the stricture above so yields that, when the instrument is closed, it can be made to pass up higher. Thus by repetitions of this manœuvre, little by little, in a few minutes' time a cervical canal is tunnelled out which before could not admit the finest probe. Should the os externum be a mere pinhole, or it be too small to admit the beak of the dilator, it is enlarged by the closed blades of a pair of straight scissors, which are introduced with a boring motion. As soon as the cavity of the womb is gained, the handles are gradually brought together, and allowed to stay so for one or two minutes. The small dilator being now withdrawn, the larger one is introduced and the handles are then slowly screwed toward one another. If the flexion be very marked, this instrument after being withdrawn, should be reintroduced with its curve reversed to that of the flexion, and the final dilatation then made. But in doing this the operator must take good care not to rotate the womb on its axis, and not to mistake the twist for a reversal of flexion. The ether is now withheld and the dilator kept *in situ* some fifteen minutes, when it is closed, removed, and the vagina well syringed out with the same solution of carbolic acid. Occasionally a slight flow of blood will last for several days after the operation, simulating the menstrual flux. Often the flux is precipitated or it is renewed, if the operation follows or precedes it too soon. The best time for dilatation is, therefore, midway between two monthly periods. Were the case before us a retroflexion, I should, after the dilatation, put in a pessary long enough to span the angle of flexure. This never fails to straighten out the womb, and in time to restore it.

Although this operation looks like rough work when compared with the neat, but most dangerous cutting one, our patient will probably need not more than two suppositories, and she will complain merely of soreness for one or two days. To forestall any tendency to metritis, she will be kept in bed until all tenderness has disappeared. Pain will be met by rectal suppositories of opium, and by large poultices laid over the abdomen. From this operation I have seen only slight pelvic disturbance, but it has always been readily controlled and has not given alarm. In one case of dilatation complicated by a fibroid of the womb, a uterine colic lasted for several days, but it was finally subdued by asafetida in large doses, and never became inflammatory. Should the temperature rise and symptoms of pelvic inflamma-

tion appear, the ice-bag should replace the warm poultice. But I have not yet met with a temperature high enough to need this energetic mode of treatment.

In the great majority of cases I dilate the canal not to the fullest extent of the larger instrument, but, as in the case before us, to one and a quarter inches. Sometimes, in an infantile cervix, which does not readily yield and might give way, the handles are not screwed closer than three-quarters of an inch or an inch; but this is exceptional. Tearing of the cervix has happened in four of my cases; in two from the sudden slipping out of the beak, and in two from sheer stretching. Three of these were unmarried and the cervix in each was split posteriorly, nearly half-way to the vaginal junction. The rent looked exactly like the incision of the cutting, or bloody, operation, but it was only half the length of the latter. As it kept the *os externum* patulous and could not do any mischief, I did not sew it up. The fourth case was that of a multipara, whose uterine canal had been nearly closed up by applications of silver nitrate, made by her physician with the view of curing what he supposed was an "ulceration of the *os*," but which was a bilateral laceration. The tissues, rendered cicatricial and brittle by the caustic, were torn by the dilator for about half an inch on the right side. Here the hemorrhage was free enough to need styptic applications and a light tampon. I could have stopped it by wire sutures, but this was not done, as it would have defeated the object of the operation.

For slight dilations, such as for the office treatment of antelexions and of stenosis, or for the introduction of the curette, or of the applicator armed with cotton, the more delicate instrument is quite strong enough, and an anæsthetic is not needed. I also use it in women who object to taking ether; but the operation is then very painful and it has to be repeated several times, while the results are by no means so good as when the canal has been dilated by the larger instrument, and under ether. Occasionally in virgins, in order to save the hymen, I have dispensed with the speculum and have dilated with the more slender instrument, passing it in along my finger; but this cannot always be done, and it is usually unsatisfactory. I was led to this, because on one occasion I was asked to give a certificate of virginity—in other words, to write and sign a paper stating that before the operation the hymen was intact. I also had to do this in the case of an unmarried woman, whose perineum, in spite of lateral cuts, was badly torn in my efforts to deliver with the obstetric forceps a very large fibroid tumor of the womb. When she returned home, the village crones got up such a buzz of scandal, that I had to go to her defence. Sometimes in a very sharply antelexed womb, the dilator cannot be made to pass the *os internum*. This difficulty is overcome by first passing in a surgeon's probe, and then, along it as a guide, the dilator.

After a forcible dilatation under ether, the cervical canal rarely returns to its former bent or former narrow condition. Since lateral extension of elastic bodies antagonizes their length, the cervix shortens and widens, and the exudation provisionally thrown out by the submucous lesions sustained by the dilated part, serves still further to thicken and stiffen its tissues. In other words, the stem-like neck of the pear-shaped womb is shortened, widened, strengthened, and straightened. Hence

for straightening out antelexed or congenitally retroflexed wombs, and for dilating and shortening the canal in cases of sterility or of dysmenorrhœa arising from stenosis or from a conical cervix, the dilator will be found a most efficient instrument. Sometimes in sharply bent wombs, I put in a stem-pessary immediately after the dilatation. In retroflexions I always put in a pessary long enough to span the angle of the flexion, so as to straighten the womb, by making pressure on the fundus. To this occasionally a stem-pessary is added.

In its results this operation is not an infallible one. I have thrice been obliged to repeat the dilatation, and would like to do so in several cases did the women permit. In a very few cases I have been forced, as a final resort, to nick a pinhole *os externum*. But I had not then learned how far I could safely stretch open the uterine canal, and the operation of dilatation was, therefore, not so efficiently performed by me as it is now through a larger and riper experience.

It is not to cases of sterility or of dysmenorrhœa only that rapid dilatation should be limited. As before stated, I use it to stretch open the canal for the admission of the curette and of tents, or for the purpose of making applications to the uterine cavity. In cases needing irrigation of the uterine cavity, I first dilate the canal with the slender instrument, and introduce the nozzle of the syringe between the separated blades. This gives a free avenue for the escape of the liquid, and robs of its dangers this form of intrauterine medication. I also resort to the dilator in order to explore the womb with the finger. For instance, in a given case of menorrhagia in which a polypus or some other uterine growth is suspected, in order to avoid the delay and the dangers inseparable from the use of tents, I put the woman under an anæsthetic, and, after the rapid dilatation of the cervical canal to the utmost capacity of the instrument,—viz., one and a half inches,—am enabled to pass my finger up to the fundus. This is accomplished either by drawing down and steadying the womb by a volsella forceps fixed on to the anterior lip, or, in thin subjects, by forcing the womb down upon the finger through suprapubic pressure on its fundus. In this way I have, over and over again, at one sitting discovered a uterine growth, twisted it off, and removed it. Usually in these cases more difficulty has been experienced in removing the polypus or other growth through the narrow canal, than in twisting it off from its uterine attachment. It often has to be wire-drawn before its removal can be effected, and sometimes it will be found needful to enlarge the *os uteri* by a few nicks. Usually, when the menorrhagia has been free, the cervical tissue is so lax that, after dilatation, the index-finger can penetrate the canal and reach the fundus, but sometimes only its tip can be made to pass the *os internum*. Yet even this limited degree of penetration is commonly quite enough to decide the presence of an inside growth. If it be not enough, I invariably search for the growth with a small pair of fenestrated forceps, and I have repeatedly seized and removed one, the existence of which was merely suspected. After such operations the uterine cavity and the vagina are thoroughly washed out with a two and a half per cent. solution of carbolic acid.

I am sorry to say that I have not kept full records of all my cases of rapid dilatation. For instance, I have

rarely tabulated office cases of dilatation, in which ether was not given. Nor has any note been made of cases in which dilatation was performed under ether for curetting, for digital exploration of the endometrium, or for the removal of uterine growths. I have tabulated merely cases of dysmenorrhœa, in single or in married women. In the married, with but three exceptions, which will be noted in the proper place, painful menstruation was associated with sterility.

Including all the cases of dilatation performed under ether, I must have had nigh three hundred and fifty cases. I have limited myself to these cases because the use of an anæsthetic implies full dilatation—one in which serious injury, if ever, would most likely be sustained. Yet, there has not been a death or a case even of serious inflammation, in my practice, and the results have been most satisfactory—far more so than when the cutting operation was performed by me.

Let me read to you a brief abstract of the statistics of my cases of dysmenorrhœa: Of single women, there were one hundred cases; of married, one hundred and nineteen; making in all two hundred and nineteen. Of the unmarried, twenty-four were unheard from after the operation, leaving seventy-six from which any data could be obtained. Of these, forty-five cases were virtually cured; twenty-four more or less improved; and seven were not at all improved. Of these seven that were not benefited by the operation, five subsequently had their ovaries removed—one of them by another physician, and four by myself: of the latter, one died. In each one the ovaries had become so changed by cystic or by interstitial degeneration as to make the dysmenorrhœa otherwise incurable. Of the twenty-four improved, there was one on whom oöphorectomy was also performed; for, although the dysmenorrhœa was partly relieved by dilatation, ovarian insanity and menorrhagia were not. The operation was a successful one, and my patient was not only cured of her hemorrhages, but she regained her reason. Out of these cases, the majority, although not wholly cured, were greatly improved. For example, one of them was formerly bedridden during the whole period of her menstrual flux, and had then to take large doses of morphia. She also suffered at those times from hæmatemesis and epistaxis. Since the operation she experiences pain for merely two hours, needs no anodyne, and has lost her ectopic hemorrhages. Her gain in health and flesh has been great. Another one, who was wholly crippled by her sufferings and made nervous by the dread of them, is now a busy nurse. For one hour at every period she suffers acutely, but not enough to overcome her dread of taking ether and of having a second dilatation performed.

Of those cured, two had Sims's cutting operation performed previously without benefit, and were afterward dilated; three were dilated a second time before a cure could be effected. The word "cured" in some of these cases, does not mean that the women were wholly free from any pain whatever, but that they did not suffer sufficiently either to go to bed or to take any stimulants or anodynes. The history of several cases merits more than a mere allusion. The sufferings of one of my patients at every monthly period had always been great, but while she was at a boarding-school they grew so excruciating as to cause furious delirium at those times. This finally

culminated in permanent insanity, with suicidal impulses. While in this condition she was placed in my hands. After rapid dilatation of the cervical canal, the dysmenorrhœa wholly disappeared. The exemption from pain toned down some of her more extravagant delusions, but she did not wholly regain her reason until a few months afterward. She is now free from all menstrual pain, and is in the complete possession of her mental faculties.

A Hebrew lady, whose health had suffered from dreadful dysmenorrhœa, was so greatly improved by one dilatation, that her physician and her friends were amazed at her rapid restoration to health. Not long afterward the doctor asked me to perform the same operation upon another one of his patients, who was, if anything, worse. Her sufferings were so severe that he wrote, "I fear that another period might kill her," and urged an immediate operation. The cervix in this case was conical and very dense. Fearing a tearing of the parts, I screwed the instrument very slowly up to one inch and a quarter, and kept up this amount of dilatation for some twenty minutes. The cervix did not sustain any injury. The canal has since stayed open, and she is free from all menstrual pain. Another case was that of an unmarried lady, sent to me from a distant State, whose sufferings at her periods were so great that morphia, however administered, was not potent enough to allay them, and her nervous system became very much shattered. Finally, at her last monthly, she was compelled to have two physicians in attendance on her, who took turn about in administering chloroform night and day for forty-eight hours. This experience decided them to send her to me. One dilatation of an inch and a quarter wholly cured her.

Of the married, sixty-nine were heard from. Of these, forty-seven were virtually cured, eighteen improved, and four unimproved. Out of these sixty-nine cases, eleven were not in a condition to conceive: four of them from fibroid tumors of the womb, two from destructive applications of silver nitrate to a torn cervix, three from being over forty-one years of age, and one from being a widow. This leaves but fifty-eight capable of conception, and of these, eleven, or about 19 per cent., became pregnant. But the ratio is, in fact, larger, for I know that several of my patients, fearing pregnancy, employed preventive measures after the operation, and I suspected several others of doing the same thing. Then, again, I believe that yet others, who consulted me merely for painful menstruation, have not reported their subsequent pregnancies. For instance, of the eleven cases of pregnancy, five came to my knowledge incidentally and not directly from the ladies themselves. It is not much more than a year ago that I learned, by the merest accident, the subsequent history of a clergyman's wife, whose cervical canal I had dilated six years ago. She had been making up for lost time by giving birth to twins within a year after the operation, and later to several other children. She had been married eight years before she came to me, and had had her cervical canal dilated by tents and slit up with Peaslee's metrotome by a skilful surgeon.

One word more: While you can expect much from this operation whenever it is performed for dysmenorrhœa caused by flexion or by stenosis, you cannot be so sanguine with regard to its results in sterility. The

reason of this is, that sterility associated with dysmenorrhoea often leads to such tissue changes in the womb as in time to make it incapable of forming a nest for the ovum, which, therefore, either escapes or perishes.

ORIGINAL ARTICLES.

EXTRAUTERINE PREGNANCY CHANGED TO INTRAUTERINE, BY MEANS OF FARADIZATION.

BY HENRY J. GARRIGUES, A.M., M.D.,

VISITING OBSTETRIC SURGEON TO THE MATERNITY HOSPITAL, GYN-
COLOGIST TO THE GERMAN HOSPITAL, ETC., NEW YORK.

IN a paper read before the American Gynecological Society, in 1882,¹ I could already compile ten cases of extrauterine pregnancy treated with electricity, besides a new one treated by myself in that way. Since then many cases have been published in medical journals and transactions of societies in this country, and one in Europe by Dr. Hochmann,² of Strassburg, which possesses particular interest, in that static electricity was used with perfect success to kill the foetus as late as six months after conception.

The success has been so uniform that this treatment has been fully established as *the* treatment in this country, and it is only about minor details, such as the kind of electricity which is to be preferred, the duration of the application, the maximum development of the foetus in which it is applicable, and the varieties of extrauterine pregnancy in which it ought to be used, that competent men yet entertain different opinions. These questions can only be definitely settled by accumulated experience, and in the present state of our knowledge it would be premature to lay down strict rules. This much is sure, that electricity in all cases, in this country, has proved a certain and safe remedy in the earlier months of extrauterine pregnancy. As to safety, it is especially to be extolled in comparison with the method of injection of morphine, which seems to be preferred in Europe. It is true, that none of the patients treated by the latter method died, but in all recovery was very slow, and in several the patient was at times in a precarious state. Friedreich's first case took a month, the second eight months, and the patient was at times decidedly hectic. Koeberle's had a hemorrhage. Rennert's patient was under treatment during two months, and was seriously ill. In Fournier's case grave inflammatory accidents occurred, and he was obliged to have recourse to laparotomy.³

This time, however, I do not wish to discuss the merits of the electric treatment of extrauterine pregnancy. I only want to put on record a very curious case which recently was treated by me, with the unexpected result of changing a previously diagnosed interstitial pregnancy into an intrauterine. It may be remembered, that already one case of

this kind has been reported, namely, that of Drs. Charles McBurney, T. G. Thomas, and T. A. Emmet, the sixth in my above mentioned article, but that ended in abortion, while mine went on till the first half of the eighth month, when a child was born that lived seven hours, and might probably have survived if proper care had been taken. The details of the case are as follows:

Mrs. Sophia B., æt. 20, born in Russia, was confined for the first time, March 9, 1884. A finger-thick band, situated in the median line just below the os, had to be cut. Labor continuing tedious, she was delivered with forceps, the head presenting by the vertex in the right occipito-posterior position. She had a severe attack of diphtheritic vulvitis, vaginitis, and metritis. She became pregnant a second time in June, suffered much during the next four months, and had a premature delivery on January 1, 1885. In March began her third pregnancy, which interests us particularly here.

She menstruated for the last time, from the 18th till the 21st of March, 1885. On the 20th of May, she consulted me for dull pain in the right iliac fossa. The vagina had a lilac color; the uterus was scarcely enlarged in the median line, but presented at the part corresponding to the right upper angle a swelling without definite limits, and very tender on palpation. No vaginal pulsation.

On June 17th I saw her again. During the intervening four weeks the pain had increased very much. The uterus had grown, but preserved its irregular shape. On the right side the distance from the fundus to the pubic bone was four inches; on the left, three and a half. The right half was very tender on pressure, the left did not present any increased sensibility. The swelling had increased much in size, and filled the right side of the pelvis. The right half of the uterus was large and merged into the said swelling, the left was comparatively little enlarged. She had some shooting pain in the breasts, which were turgid. Five days later, June 22d, at 10 A. M., she was seized with so violent pain that she thought she was going to have an abortion, and sent in haste for a midwife. I saw her at 3 P. M., and found the cervix closed, but soft, and giving the impression that it was going to dilate. All over the uterus, inclusive of the swelling, was heard an uncommonly strong uterine souffle. I distinctly felt that the left half of the uterus was flat, while the right half, together with the said swelling, formed a spherical mass. I explained to the patient and her husband that, in my opinion, she had an interstitial pregnancy in that part of the right Fallopian tube which lies in the wall of the uterus; that if I was mistaken, and the ovum was developed in the cavity of the uterus, an abortion was imminent; and that, therefore, the introduction of a sound into the uterine cavity could not do any harm, and would give important information in regard to the question of extrauterine pregnancy. Having obtained their consent, I introduced the sound to a depth of three inches and a half. It entered with the greatest facility, without meeting any resistance. It could easily be turned to the left, but when turned to the right it soon met resistance. There did not come any fluid, neither

¹ Trans. Amer. Gyn. Soc., vol. vii. p. 184.

² Hochmann, in Allgemeine med. Central-Zeitung, Berlin, April 21, 1883, vol. lii., No. 35, p. 409, and November 3, 1883, No. 88.

³ Virchow's Archiv, 1864, xxix. p. 312. Archiv für Gynäkologie, 1877, xii. 355. Lusk, Midwifery, 1882, p. 320. Archiv für Gynäkologie, 1884, xxiv. p. 266. Charpentier, Traité des Accouchements, i. p. 1045.

blood nor liquor amnii. This confirmed me in my diagnosis of right interstitial pregnancy. The pain was provisionally quieted with morphine, while I made preparations for the use of electricity. When I saw her again at 8 p. m., there was some bloody discharge from the uterus, but the cervix was unchanged. The faradization apparatus, which I had used with marked success in my previous case of tubal pregnancy, being at the instrument-maker's for repair, I bought a Smith & Shaw's closed cell pocket battery, applied the negative pole, consisting of a metal ball covered with muslin, against the tumor in the vagina, and the positive pole, formed by a large plate of carbon covered with cotton flannel, on the abdomen just above and in front of the tumor. I used the lowest power of the primary current of both cells for ten minutes. The pain was quite supportable. Before beginning, I mapped out the whole uterus on the abdomen with ink, and later I went over the line with a stick of lunar caustic. It formed an obliquely oblong figure, five inches wide, three inches and a half high. Only two inches of the width lay to the left of the median line, three to the right. She did not sleep during the night on account of excitement, but had not much pain.

The next morning, June 23d, I found all uterine soufflé had disappeared. The uterus was much smaller and softer, the change having taken place only in the right side. The uterine body measured now four inches in width, two on either side of the median line, and two and three-quarters of an inch in height. The cervix was unchanged. Nothing had been discharged from the vagina except a few drops of pure blood, no water, no shreds, no lumps. The breasts had become much flatter. Pulse and temperature were normal. Faradization as the evening before. During the day she had some vomiting, headache, and feeling of malaise.

The next morning, June 24th, the headache had disappeared, and she was free from pain, and was not even tender on pressure, except on the place corresponding to the foetal sac.

On the following day (June 25) she felt quite well, and began to eat. The cervix was more closed than heretofore, and the whole uterus had sunk a little in the pelvis.

On the following day (June 26) the tenderness on vaginal examination was much diminished. In the lower part of the uterine body, mostly to the right, was felt a harder, somewhat kidney-shaped part, measuring two and five-eighths inches from side to side, by one and five-eighths in height (foetus?).

During the following days this mass became less distinct, and after three days it could no longer be distinguished.

On July 1st, the tenth day of treatment, the uterus had again risen somewhat out of the pelvis, and measurements showed that it had increased both in width and height. By rectal examination in the left side decubitus, a soft, elastic, tender swelling, of the size of an English walnut, was felt behind the uterus, somewhat to the right (small ovarian cyst?). An artery was felt pulsating in the recto-vaginal septum.

For safety's sake, I applied faradization as above, on July 2d, 3d, 4th, and 5th. The patient felt per-

fectly well, and all tenderness on pressure had disappeared.

During most of July and August I was absent, and Dr. J. C. Colles took care of the case.

On July 14th she said she felt as if that part of the uterus which lay to the left was growing, and that she had felt movements similar to those experienced in the fourth month of her previous pregnancies.

On July 17th she complained of quite severe pain in the lower part of the abdomen. The womb was evidently enlarged in all directions, but of regular shape. Faradization was used as before on the 17th and 19th, with the effect of stopping both pain and movements, and diminishing the size of the womb.

On the 23d of the same month I came on purpose to the city from a long distance, to examine this remarkable case. I found the uterus forming a regular globular body of considerably larger size than when I had seen it last, eighteen days before. The fundus reached five and three-quarters inches above the symphysis pubis, and five inches from side to side. The uterine soufflé had reappeared, but no foetal heart sounds or movements could be heard.

On July 27th she again felt the foetus move.

On August 20th the fundus had approached the umbilicus to within a finger's breadth.

On September 2d I saw her again. The fundus was at the umbilicus. Foetal movements could both be heard and felt, and the foetal heart sounds were heard in the lower part of the uterus, to the right. She felt well, and continued to do so till the end of the next month.

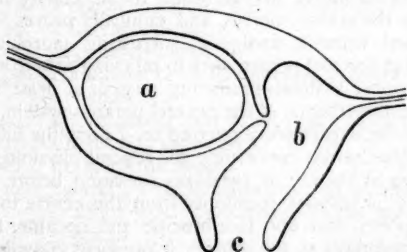
On October 31st, at one A. M., she was seized with labor pains, sent for a neighboring midwife, and an hour later, by a normal delivery, gave birth to a well-developed female child measuring sixteen and one-half inches in length, and looking as if it weighed between five and six pounds. It lived five hours, and might probably have continued to do so if better taken care of. The parents had the old superstition, that "an eight months' child could not live." When I saw it eight hours after its birth, it had not even been washed. The after-birth was small, but otherwise of normal appearance.

Commentary.—When we look over the chief features of this case, we find, first, her severe diphtheritic inflammation of the womb, which may have obliterated the uterine end of the right Fallopian tube. In the intervening pregnancy, the ovum may have come through the open left tube, while in the third it came through the right, and was arrested in that part of the canal which lies in the uterine wall. Thus we have in her previous ulcerative metritis a predisposing cause of extrauterine pregnancy.

Even when I examined her for the first time, when she could be only eight weeks pregnant, the presence of the swelling in the right upper angle of the uterus, and the shape of the uterus were so peculiar, that I surmised it might be an interstitial pregnancy. A month later the difference in size, shape, and tenderness of the two halves of the uterus was so marked that I had a strong suspicion that I had such a case before me. When, a few days later, just at the end of the third month, she was seized with violent pain, which she referred to the womb, and

which she took for a commencing abortion, for which she sought help as quick as possible, there was not much doubt in my mind as to the diagnosis, and when I could introduce a common uterine sound three inches and a half through a patulous os, and turn it without the escape of any fluid, I think that was conclusive proof that the uterine cavity was enlarged, but empty.

I have asked myself the question, If it were not possible that the ovum might have been engrafted on the mucous membrane of the uterus close up to the right tube, and that coalescence between the decidua reflexa and vera had not yet occurred, so that the sound might have entered the space between the two? I have treated an abortion case in which the decidua had a prolongation like the finger of a glove, corresponding to one horn of the uterus. But, apart from real uteri bicornes, this shape of the uterine cavity, like a star with three rays, is only found in nulliparous women. In those who have borne children, the cavity becomes triangular and the horns much shortened.¹ Now our patient had an entirely normal uterus, as I have had the opportunity to ascertain many times both in the pregnant and non-pregnant condition. Furthermore, the sound was introduced when she was at the end of the third month. She stated that coition had taken place immediately after the cessation of the menstrual flow on March 21st, and the whole development of the uterus and the child corresponds to this starting-point. At that period of gestation the reflexa and decidua are in contact, and could only be separated by injection of water or insufflation of air.² In my case the sound entered with the greatest ease through a patulous cervix into an open cavity. It was in the median line, and could be turned to the left without meeting resistance, and somewhat to the right, when it was arrested by the large body situated in the right wall and bulging into the uterus. The condition found at the time of sounding may be represented by the following diagram.



a. Foetal sac developed in uterine portion of right tube.
b. Uterine cavity.
c. Os uteri.

We can no longer doubt the possibility of a tubal, and especially an interstitial, pregnancy being changed into a uterine. The above mentioned case occurring in Dr. McBurney's practice, was diagnosticated by

two gynecologists of such eminence as Drs. Thomas and Emmet. Before the use of electricity a tumor was felt overhanging the edge of the true pelvis, and extending beyond about two inches. After the second application there was bloody discharge. The tumor in the left iliac fossa disappeared with the exception of a small mass on the brim. In the median line, on the other hand, was felt a smooth, symmetrical tumor, and from the vagina was felt a tense and very strong bag of membranes protruding through a fully dilated cervix. On rupturing the membranes, a large amount of pure liquor amnii, and with it a dead foetus about three months old, came away. The placenta followed in about twenty minutes.

Dr. Janvrin,³ for many years assistant gynecologist to the New York Woman's Hospital, has reported a case which in some respects is very much like mine. Forty-nine days after the only coition that had taken place the uterus was found a little enlarged, the os was slightly patulous and considerable tenderness existed over the left horn and tube. Later a symmetrical enlargement was found of the left tube, being as great at the junction with the uterus as at any other point. He used considerable force in pressing upon the foetus, trying to expel it into the uterus, but failed. During the night the patient had severe pains, like those of labor, confined to the left side of the uterus and to the tube, and at the same time there was a slight flow. The next morning the mass had disappeared from the tube. At all of his previous examinations the right horn of the uterus was much flattened, but within the last twenty-four hours the right side had become bulging, almost as much as the left horn. The foetus was retained in the uterus till the end of the fourth month, but when it was expelled it had the appearance of only two months' development. The placenta was atrophied, except at one point as large as a thumb-nail, where it was fresh.

Those two cases were observed by accoucheurs and gynecologists of large experience, and go far to corroborate the view that in the present case likewise a tubal pregnancy was changed into a uterine; but mine differs from the others by the continued life and development of the foetus.

Particular interest attaches to the question, how electricity acted in this case? Are we to conclude that electricity cannot be relied on as a feticide? By no means. As stated above, the apparatus I had used on a previous occasion, and which was a one-cell carbon and zinc apparatus, with Bunsen's bi-chromate of potash solution, was not available. Instead of that, I used a Smith & Shaw closed cell battery, in which electricity is generated by the immersion of a zinc rod into a solution of bisulphate of mercury. I have since then found that this apparatus causes considerably more pain than the other, and, as I only used the sensation of the very nervous patient for a guide as to the strength of the current to be applied, it is evident that she got much less electricity than she would with the other apparatus, and much less than the amount used on my first patient, who was an uncommonly apathetic per-

¹ See Guyon's moulds of different uteri, Courty's Maladies de l'Uterus et de ses Annexes, Paris, 1866, figs 33, 34, and 36.

² Spiegelberg, Lehrbuch der Geburtshilfe, Lahr, 1878, p. 71. Tarnier, Traité des Accouchements, Paris, 1882, vol. i. p. 215.

³ Amer. Journ. Obstetrics, August, 1885, vol. xviii. p. 855.

son. The small amount of electricity passed through the foetus explains why it did not die. Dr. Landis's experiments with insects, fishes, and rabbits, have proved that if the current is not strong enough, and not applied sufficiently long, the animal is only stunned and revives after a while.¹ In our case the length of the sittings was the one that commonly has been used, namely, ten minutes each time. That the foetus withstood eight such applications can, therefore, only be referable to the weakness of the current.

I have hitherto believed that electricity acted primarily by killing the foetus, and that all the other phenomena observable were of a secondary nature. But this case proves that it is not so. Here the foetus was not killed, and yet we had a most marked effect of the application of electricity. During the application nothing peculiar was observable, except very moderate pain. No muscular contractions were seen or felt, and the womb neither decreased in size nor changed in shape. But when I saw the patient again, only twelve hours later, very remarkable changes had taken place. The bulk of the uterus had diminished one-third, which can only be explained by absorption of the liquor amnii, for nothing had come through the vagina except a few drops of pure blood. The severe pain had almost ceased, and the strong uterine soufflé had entirely disappeared, both of which changes find a natural explanation in the diminished tension of the uterine wall. The womb had become much more symmetrical, which I ascribe to the removal of the ovum into the cavity. A few days later a mass, which, doubtless, was the foetus, could be felt in the lowest part of the uterine body. With regard to the latter point, it may be worth mentioning that, according to the most approved views on placenta prævia, that condition is due to arrested abortion,² the placenta being thrown off from its attachment in the upper part of the womb, and finding a new one above the internal os. When in this way the ovum is detached, and has to engraft itself in a new place, we can understand that in the majority of cases it will fail to do so, and the process ends in abortion, as in Dr. McBurney's case; and that, if it really succeeds, it is less favorably situated than if it had been developed from the beginning in its new abode. This would explain why in Dr. Janvrin's case the foetus, although retained in the uterus for two months after its migration, did not progress in development, and why the placenta was normal only on a small spot. In our present case development went on till the first half of the eighth month, but the placenta was small.

Even in the breasts the usual change from turgescence to flaccidity took place at the first application of electricity.

A month later, after movements had been felt, electricity was applied twice. This time there were again diminution of size of the uterus, cessation of pain, and cessation of foetal movements for a whole week. The condition of the breasts was not noted.

We see, then, that, although the foetus was not dead, but merely stunned, many remarkable changes took place in the womb and in the breasts.

We notice in the history that a slight discharge of blood occurred even before the application of electricity, and continued the next day. This, together with the violent labor-like pains, shows that a destruction of the obstacle which stood between the foetal sac and the uterine cavity had begun. Electricity may be supposed to have made the removal easier by diminishing the bulk of the ovum to be dislodged, and was thus, perhaps, the factor which prevented miscarriage taking place at that time.

The practical value of this experience will, probably, be rather limited. In abdominal and true tubal pregnancy the indications will be, as heretofore, to try to kill the foetus as soon as possible by means of a strong current; but, in the tubo-uterine variety, it might be worth while trying by means of a weak current merely to facilitate the removal from the cavity in the wall into the interior of the uterus, where, under favorable circumstances, it may form new connections, and be developed sufficiently to allow a living and viable child to be born.

THE THERAPEUTIC ACTION OF THEINE; A NEW ANALGESIC.

BY THOMAS J. MAYS, M.D.,
OF PHILADELPHIA.

THEINE is the active principle of the leaves of Chinese tea, and is generally reputed to be identical with caffeine, both in chemical composition and in physiological action. In a series of experiments, which appeared in the *Therapeutic Gazette* for September, 1885, I think I sufficed sufficient proof to show that it differs very markedly in its physiological action from that of caffeine; and I have since then gathered evidence to indicate that it differs as widely from the clinical action of caffeine as it does from its physiological action. In fact, caffeine principally affects the motor nerves, while theine chiefly influences the sensory nerves, and clinically proves itself a most valuable analgesic, surpassing morphia in promptness and permanency in relieving pain in some affections, without producing any, or at least very little, disturbance of the general nervous system.

In the experiments referred to, I drew the following conclusions concerning the general physiological action of theine: It paralyzes sensation before motion; it impairs sensibility from the centre to the periphery, and not, like brucine and cocaine, from the periphery to the centre; it produces convulsions which are spinal and not cerebral; it has a more powerful action on the sensory nerves, and less on the motor nerves than caffeine.

Its power to produce such decided and complete paralysis of the sensory nerves in the lower animals gave rise to a desire to test its physiological properties on the healthy human being, and, with this end in view, I introduced moderate, or probably small doses of the drug into the circulation by the subcutaneous method in a number of instances, and noted the results. In the main, there was a general agree-

¹ Henry G. Landis: The Cure of Extrauterine Fœtation by Electricity. *Am. Journ. of Med. Sci.*, October, 1885, vol. clxxx. p. 446.

² E. Ingerslev, Placenta prævia, abstract in *Amer. Journ. Obstet.*, 1882, p. 151.

ment in the symptoms which developed, and hence, only one case, typical of the rest, will be given here. It was injected into the left forearm of an adult in good health, whose arm, however, was fatigued by carrying a satchel to railroad station the previous morning.

- 1.40 P. M. Injected $\frac{1}{4}$ grain of theine in left forearm, near elbow.
- 1.42. Fatigue in arm gone.
- 1.43. Diminution of sensibility in left forearm, especially around seat of injection.
- 1.46. Diminished sensibility extends as far as hand.
- 1.48. Some burning at seat of injection.
- 1.49. Touch impaired in tips of fingers of left hand.
- 1.51. Tingling in fingers and wrist of left hand.
- 1.52. No influence on pupil.
- 1.54. Voluntary motion of arm and hand unimpaired.
- 1.55. Arm and hand feel as if they were asleep.
- 1.56. No burning around seat of puncture.
- 1.57. Marked difference in sensibility between the two arms and hands.
- 2.02. No impairment of sensation above elbow.
- 2.03. Slight shooting pains along the posterior part of left arm above elbow.
- 2.06. Sensibility of finger tips impaired.
- 2.07. Pupils unaffected.
- 2.08. Finger tips very dull.
- 2.11. In playing the piano, can move fingers of left hand as well as those of right.
- 2.13. Mind perfectly clear.
- 2.15. Pulse 78.
- 2.16. Same difference in sensibility between hands and arms.
- 2.23. Pulse 74, and stronger.
- 2.26. Pupils not affected.
- 2.30. Sensibility absolutely gone around seat of injection.
- 2.32. Pulse 74.
- 2.33. Motion in left arm unimpaired.
- 2.34. Fingers and hands feel as if asleep.
- 2.40. Pupils unaffected.
- 2.44. Left hand numb.
- 2.55. No difference in temperature between two hands.
- 3.00. Pupils unaffected. Mind clear. No stupor.
- 3.01. Finger tips very numb.
- 3.06. Feels a little sleepy.
- 5.30. Sensibility still impaired, especially in finger tips. Arm above elbow uninfluenced.
- 6.40. Sensation more normal in arm. Finger tips still feel numb.
- 8.00. Sensibility entirely restored. There are some redness and tenderness around seat of injection.

These experiments confirm those which I made on the lower animals in the following particulars: Theine has a special affinity for sensation, and not for motion. It produces anæsthesia in the injected limb, which is confined below the seat of injection—*i. e.*, its influence extends from the centre to the periphery, and not in the opposite direction.

The products of all these experiments have led me to believe that theine would be efficacious in the treatment of painful affections of the long nerves, and I am able to state that this deduction was fully verified by the results which were obtained in the only two cases in which I had the opportunity of testing it. These two cases are the following:

CASE I.—Mrs. A. A., aged 49 years, came under my care May 2, 1885, when she had constant pain in right leg from hip to foot ever since the preceding Christmas. The pain followed the course of the nerves of the leg, and, of course, was very much aggravated by walking. The leg was considerably atrophied, and was weak and uncertain in its gait. Her appetite was poor, and bowels irregular, and she passed whole nights without sleep on account of pain. She was anæmic, and was treated with iron, quinia, ammonia, salicylate of sodium, iodide of potash, atropia, morphia, poultices, blisters, etc., without avail, until the following 18th of July, when I injected $\frac{1}{4}$ grain of theine into the calf of her leg. The pain ceased in less than five minutes, and never returned in its original force. In half an hour her heel and foot began to feel numb and insensible, which lasted for about twelve hours, but her mind was perfectly free from its influence. She experienced no headache, or drowsiness.

July 20.—Pain in whole leg better since last injection, but has not entirely disappeared from the thigh, so I introduced $\frac{1}{4}$ grain into the latter region.

28th.—Leg altogether free from pain, but still complains of some in foot. Otherwise, she is improving. Injected $\frac{1}{4}$ grain over instep.

September 6.—Feels better. Slight pain around ankle-joint. Injected $\frac{1}{10}$ grain more at this point. This was the last injection she received, and she made an uninterrupted recovery from this time on. The leg began to fill out, and at the present writing it is of the same dimensions as the left. She experienced no bad results from the theine injections, neither at the seat of injection nor anywhere else, except a few slight muscular twitchings in the leg after the first two injections. She expressed herself as being highly pleased with the result.

CASE II.—E. P.—, aged 19 years, was suffering from pain in right shoulder extending from right side of spinal column along the arm to the tips of her fingers. The pain had been very annoying and frequently kept her awake at night. On examination, I found great tenderness on pressure over right brachial plexus, which extended down the arm of same side. She was anæmic, had dysmenorrhœa, and was treated by me with iron, quinia, and ammonia without any benefit, so far as the neuralgia was concerned—in fact, she said the pain was worse. On September 29, 1885, at 8.45 P. M., I injected, hypodermically, $\frac{1}{4}$ grain of theine over right brachial plexus. At 8.50 she said she had a feeling as if something was creeping over her right shoulder toward the arm. On examination, found sensation around point of injection, and over region where she experienced the formication, somewhat diminished. At 8.55, in ten minutes, she said that the neuralgic pain in the back was relieved. At 9, in fifteen minutes, the diminution of sensibility had extended

from shoulder down arm. At 9.02, in twenty minutes, anaesthesia marked around seat of injection. Her head feels good and clear. At 9.15, in thirty minutes, neuralgic pain improved in fingers. At 9.17, in thirty-two minutes, still feels the creeping sensation over right shoulder. Sensation slightly impaired from shoulder to end of fingers.

September 30.—Slept well until 3 A.M., after which she was somewhat restless, but experienced no pain.

October 1.—No return of pain. Experienced no stupor or unpleasant sensation throughout experiment.

From the results of the action of theine in these cases it will be seen that it is a powerful anodyne without producing any intoxication of the higher nerve centres, which is so common with morphia and all other agents belonging to this class. Its influence is both quick and persistent, and it manifests an almost exclusive affinity for the sensory nerves. It relieves pain by acting from the centre toward the periphery, and showing its effects but very seldom above the seat of injection. This is precisely in harmony with what was found in the experiments on the lower animals. In $\frac{1}{10}$, $\frac{1}{5}$, and even $\frac{1}{2}$ grain doses it is entirely free from dangerous consequences—the only inconvenience which it causes is a slight, but transient burning at the point of introduction. I use a one per cent. watery solution of Merck's preparation—ten minims of which equal one-fifth of a grain of theine. Larger doses are required in some individuals in order to bring out its characteristic action.

I sincerely hope that the action of this agent will be further investigated, for, if the favorable report above given is sustained, it will certainly prove itself of the greatest clinical value, and will be a vindication of the modern methods of pharmacological inquiry.

1716 CHESTNUT STREET.

DISINFECTANTS.

REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

XXII.

CONCLUSIONS.

THE experimental evidence recorded in these reports seems to justify the following conclusions:

The most useful agents for the destruction of spore-containing infectious materials are:

1. Fire. Complete destruction by burning.
2. Steam under pressure. 110° C. (230° Fahr.) for ten minutes.
3. Boiling in water for one hour.¹
4. Chloride of lime.² A 4 per cent. solution.
5. Mercuric chloride. A solution of 1 : 500.

For the destruction of infectious material which owes its infecting power to the presence of micro-organisms not containing spores, the Committee recommend:

1. Fire. Complete destruction by burning.
2. Boiling in water half an hour.
3. Dry heat. 110° C. (230° Fahr.) for two hours.
4. Chloride of lime.¹ 1 to 4 per cent. solution.
5. Solution of chlorinated soda.² 5 to 20 per cent. solution.
6. Mercuric chloride. A solution of 1 : 1000 to 1 : 4000.
7. Sulphur dioxide. Exposure for 12 hours to an atmosphere containing at least 4 volumes per cent. of this gas, preferably in presence of moisture.³
8. Carbolic acid. 2 to 5 per cent. solution.
9. Sulphate of copper. 2 to 5 per cent. solution.
10. Chloride of zinc. 4 to 10 per cent. solution.

The Committee would make the following recommendations with reference to the practical application of these agents for disinfecting purposes:

For Excreta.

(a) In the sick room:

For spore-containing material ;

1. Chloride of lime in solution, 4 per cent.
 2. Mercuric chloride in solution, 1 : to 500.⁴
- In the absence of spores ;
3. Carbolic acid in solution, 5 per cent.
 4. Sulphate of copper in solution, 5 per cent.
 5. Chloride of zinc in solution, 10 per cent.

(b) In privy vaults:

Mercuric chloride in solution, 1 : 500.⁵

(c) For the disinfection and deodorization of the surface of masses of organic material in privy vaults, etc.:

Chloride of lime in powder.⁶

For Clothing, Bedding, etc.

(a) Soiled underclothing, bed linen, etc.:

1. Destruction by fire, if of little value.
2. Boiling for at least half an hour.
3. Immersion in a solution of mercuric chloride of the strength of 1 : 2000 for four hours.⁴
4. Immersion in a 2 per cent. solution of carbolic acid for four hours.

(b) Outer garments of wool or silk, and similar articles, which would be injured by immersion in boiling water or in a disinfecting solution:

1. Exposure to dry heat at a temperature of 110° C. (230° F.) for two hours.
2. Fumigation with sulphurous acid gas for at least twelve hours, the clothing being freely exposed, and the gas present in the disinfection chamber in the proportion of four volumes per cent.

¹ Should contain at least 3 per cent. of available chlorine.

² This will require the combustion of between three and four pounds of sulphur for every 1000 cubic feet of air space.

³ The addition of an equal quantity of potassium permanganate as a deodorant, and to give color to the solution, is to be recommended (*Standard Solution No. 2*).

⁴ A concentrated solution containing four ounces of mercuric chloride and one pound of cupric sulphate to the gallon of water, is recommended as *Standard Solution No. 3*. Eight ounces of this solution to the gallon of water will give a dilute solution for the disinfection of excreta, containing about 1 : 500 of mercuric chloride, and 1 : 125 of cupric sulphate.

⁵ For this purpose the chloride of lime may be diluted with plaster of Paris, or with clean, well-dried sand, in the proportion of one part to nine.

⁶ The blue solution containing sulphate of copper, diluted by adding two ounces of the concentrated solution to a gallon of water, may be used for this purpose.

¹ This temperature does not destroy the spores of *B. subtilis* in the time mentioned, but is effective for the destruction of the spores of the anthrax bacillus and of all known pathogenic organisms.

² Should contain at least 25 per cent. of available chlorine.

(c) Mattresses and blankets soiled by the discharges of the sick.

1. Destruction by fire.
2. Exposure to superheated steam—25 pounds pressure—for one hour. (Mattresses to have the cover removed or freely opened.)
3. Immersion in boiling water for one hour.
4. Immersion in the blue solution (mercuric chloride and sulphate of copper), two fluidounces to the gallon of water.

*For Furniture and Articles of Wood, Leather, and Porcelain.*¹

Washing, several times repeated, with:

1. Solution of mercuric chloride, 1:1000. (The blue solution, four ounces to the gallon of water, may be used.)
2. Solution of chloride of lime, 1 per cent.
3. Solution of carbolic acid, 2 per cent.

For the Person.

The hands and general surface of the body of attendants, of the sick, and of convalescents at the time of their discharge from hospital:

1. Solution of chlorinated soda diluted with nine parts of water (1:10).
2. Carbolic acid, 2 per cent. solution.
3. Mercuric chloride, 1:1000; recommended only for the hands, or for washing away infectious material from a limited area, not as a bath for the entire surface of the body.

For the Dead.

Envelop the body in a sheet thoroughly saturated with:

1. Chloride of lime in solution, 4 per cent.
2. Mercuric chloride in solution, 1:500.
3. Carbolic acid in solution, 5 per cent.

For the Sick Room and Hospital Wards.

(a) While occupied, wash all surfaces with:

1. Mercuric chloride in solution, 1:1000 (the blue solution containing sulphate of copper may be used).
2. Chloride of lime in solution, 1 per cent.
3. Carbolic acid in solution, 2 per cent.

(b) When vacated:

Fumigate with sulphur dioxide for 12 hours, burning 3 pounds of sulphur for every 1000 cubic feet of air space in the room; then wash all surfaces with one of the above-mentioned disinfecting solutions, and afterward with soap and hot water; finally throw open doors and windows and ventilate freely.

*For Merchandise and the Mails.*²

The disinfection of merchandise and of the mails will only be required under exceptional circumstances; free aëration will usually be sufficient. If disinfection seems necessary, fumigation with sulphur dioxide, as recommended for woollen clothing, etc., will be the only practicable method of accomplishing it.

¹ For articles of metal, use Solution No. 3.

² In order to secure penetration of the envelope by the sulphur dioxide, all mail matter should be perforated by a cutting stamp before fumigating.

For Rags.

(a) Rags which have been used for wiping away infectious discharges should at once be burned.

(b) Rags collected for papermakers during the prevalence of an epidemic should be disinfected before they are compressed in bales by:

1. Exposure to superheated steam (25 pounds pressure) for ten minutes.
2. Immersion in boiling water for half an hour.

(c) Rags in bales can only be disinfected by injecting superheated steam (50 pounds pressure) into the interior of the bale. The apparatus used must insure the penetration of the steam to every portion of the bale.

For Ships.

(a) Infected ships at sea should be washed in every accessible place, and especially the localities occupied by the sick, with:

1. Solution of mercuric chloride, 1:100 (the blue solution heretofore recommended may be used).
2. Solution of chloride of lime, 1 per cent.
3. Solution of carbolic acid, 2 per cent.

The bilge should be disinfected by the *liberal* use of a strong solution of mercuric chloride (the concentrated solution—"blue solution"—of this salt with cupric sulphate may be used).

(b) Upon arrival at a quarantine station an infected ship should at once be fumigated with sulphurous acid gas, using three pounds of sulphur to every 1000 cubic feet of air space; the cargo should then be discharged on lighters; a liberal supply of the concentrated solution of mercuric chloride (4 ounces to the gallon) should be thrown into the bilge, and at the end of twenty-four hours the bilge-water should be pumped out and replaced with *pure* sea-water; this should be repeated. A second fumigation after the removal of the cargo is to be recommended; all accessible surfaces should be washed with one of the disinfecting solutions heretofore recommended, and subsequently with soap and hot water.

HOSPITAL NOTES.

JEFFERSON MEDICAL COLLEGE HOSPITAL.

Service of PROF. S. W. GROSS, M.D.

THREE OVARIOTOMIES.

(Reported by M. P. Vander Horck, M.D., Resident Physician.)

THE following brief notes of three successful cases of ovariectomy, performed by a general surgeon in a general hospital, tend to show the absurdity of the position held by many specialists, namely, that such operations should only be undertaken by those who have been specially trained in this field of surgery, and who operate only in private houses or institutions.

CASE I.—A married woman, the mother of two children, was admitted September 14, having been tapped one month previously, and the enlargement of the belly having existed for four years and a half. Two days subsequently, a median incision, two inches long, was made midway between the umbilicus and the

pubes; slight adhesions were broken up; a catgut ligature was applied to a bleeding vessel of the slightly adherent omentum; the contents of the cyst—two gallons of fluid—were evacuated; and the pedicle tied with a violincello string, and dropped. The external wound was closed with four silver sutures, which included the entire thickness of the abdominal wall, and the usual dressings applied. The operation was conducted under strict antiseptic precautions, including the spray, carbolic acid being the agent used. The stitches were removed on the tenth day; the patient was permitted to walk about the room on the fifteenth day, and was discharged five days subsequently.

CASE II.—A virgin, aged twenty-two, was admitted January 31, having been tapped three months previously, and the symptoms having existed for eight months. As in the first case, a short incision was made; slight adhesions were broken up; and two gallons of fluid evacuated from the multilocular cyst. The pedicle was tied with the same material and dropped, and the wound closed with three silver sutures. The spray and other antiseptic precautions were employed during the operation; the wires were removed on the eleventh day, and the patient went home seven days later.

CASE III.—A primipara aged thirty, who had had symptoms of ovarian cyst for two years and a half, was admitted October 17, and the cyst, which, with its contents, weighed eighteen pounds, was removed two days subsequently. There were no adhesions; the pedicle was tied with a violincello string and dropped, and the external wound closed with five silver sutures. In this case the spray was omitted, and a 1 to 1000 solution of corrosive chloride used for the hands, ligature, and outer dressings. The stitches were removed on the eleventh day; the patient sat up on the fourteenth day, and was discharged four days subsequently.

Remarks.—The highest temperature observed in any of these cases was $100\frac{1}{2}^{\circ}$ F., and the convalescence in all was not interrupted by any untoward occurrence. In all, the pedicle was transfixed by a probe carrying a double catgut ligature, and tied in two portions before the cyst was detached. The preliminary preparations consisted in the administration of ten grains of calomel two nights before the operation, to clear out the bowels, and the exhibition of at least thirty grains of quinine, in ten grain doses, to obviate shock. Food was withheld for twenty-four hours after the operation, when a small quantity of milk was allowed, which was gradually increased, and alternated with soups. Solid food was not permitted for eight or ten days. As soon as the patient began to feel uncomfortable in the intestinal tract, which usually happened about the eighth day, six ounces of olive oil were thrown into the rectum, and half a ounce of castor oil administered by the mouth. With this exception, medication was not called for.

MEDICAL PROGRESS.

ANTISEPSIS IN OBSTETRICS.—In a recent monograph by C. FÜRST (*Die Antiseptis bei Schwangeren, Gebärenden u. Wöchnerinnen*, Wien, 1885), the following conclusions are offered regarding injections of corrosive sublimate:

1. Large quantities of strong solutions must be

avoided; the prolonged action of such solutions, or the continuous irrigation of fresh wounds therewith being dangerous. The fluid used must be expelled as far as possible. Before such irrigation, the uterus should be first lifted, and then compressed (Fritsch). Subsequent injection with some other antiseptic solution is recommended (Tänzer).

2. Anæmia enhances the danger attending the use of both carbolic acid and corrosive sublimate.

3. Diminished renal activity constitutes a contraindication for the use of such injections; and the state of the kidney in pregnancy probably conditions a marked predisposition to sublimate poisoning.

4. Especial caution is advised in high fever and septic diarrhoea.

5. The exit of the sublimate solution from the uterus through the Fallopian tube is especially dangerous.—*Centralb. f. Gynäk.*, Nov. 14, 1885.

EXCISION OF A CHANCRE.—The following interesting and apparently conclusive piece of evidence bearing upon the utility of the extirpation of the initial sore, is quoted from LENOIR's lectures on syphilis.

A student in 1882 told him that on the previous night he had had intercourse with a woman who, he subsequently found out, was syphilitic. The woman had eroded papules of the vulva. The student was told to watch closely for the least appearance of a symptom, and to pay particular attention to any ganglionic engorgement or induration. He used a magnifying glass, and upon going to bed and arising in the morning he carefully examined his genitals with a good lens. He became a monomaniac upon the subject. Upon the 22d day at 2 o'clock in the afternoon he burst into Lenoir's office and, having already come twice that day without seeing him, the first thing he did was to show his penis. Upon the free edge of the prepuce an elevated erosion was situated, as large as the head of a pin. It was rather a macule than an erosion; no trace of any induration, no inguinal adenopathy. This sore had appeared since midnight and it was only in the morning that the patient had observed it. The rest of the patient's integument was examined but absolutely nothing found. Supposing that this small erosion might be a chancre it was excised, a portion as large as a dime being removed. Cicatrization rapidly followed without any induration taking place. But a few days later the inguinal ganglia became engorged and about six weeks later the secondary symptoms burst out as roseola, alopecia, and eroded papules. It certainly was not fourteen hours after its appearance that thorough excision was made, and yet the sequel proved how futile the means was. It would be well if many of the advocates of the local nature of syphilis at its inception were to take this example and ponder over it.—*St. Louis Med. and Surg. Journal*, October, 1885.

EXPERIMENTS UPON THE GASTRIC DIGESTION OF MILK.—The following results were obtained by REICHMANN in a series of observations upon the length of time required for the digestion of milk in the healthy human stomach. About one-half pint of raw milk was usually given to the person under observation, and removed by the sound and pump at varying intervals of time. The quantity mentioned was found to be digested in three

hours, and in four hours the last traces of acid fluid had left the stomach. The maximum gastric acidity (0.32 per cent.) was attained in one hour and fifteen minutes. Peptone appeared in noteworthy amount in from thirty minutes to two hours. Boiled milk was found to be somewhat more rapidly digested than was raw milk.—*Zeitschr. f. klin. Med.*, Bd. ix. Hft. vi., 1885, p. 565.

MULTIPLE ULCERATIONS OF THE DIGESTIVE TRACT PRODUCED BY LARGE DOSES OF MORPHIA.—A. SOURROUILLE reports the exhibition, in a case of uterine carcinoma, of morphia in doses increasing from three-fourths of a grain to four grains. The sedative effect was prompt, but untoward effects soon appeared: thirst, dryness of mouth and œsophagus, with dysphagia, anorexia, constipation, etc. On the mucous membrane of the mouth and pharynx, and probably also at other points in the digestive canal, appeared a series of sharply outlined ulcerations of varying depth which rendered alimentation impossible. The symptoms disappeared upon the withdrawal of the drug, to reappear upon its renewal. Sourrouille maintains that morphia induces atrophy of the secretory organs and destroys the epithelium with which it comes in contact.—*Centralb. f. d. med. Wissensch.*, Nov. 7, 1885.

NEPHROTOMY FOR TOTAL SUPPRESSION OF URINE.—The patient upon whom Mr. Clement Lucas operated for total suppression of urine, lasting four days and six hours, and whose case was described in THE MEDICAL NEWS of November 21, 1885, is progressing favorably and gradually gaining strength. As, during the first week, no urine reached the bladder, a little concern was felt lest there might be another stone impacted in some lower part of the ureter. All anxiety on this score was, however, dispelled on the twelfth day, when, for the first time, the patient voided about two ounces and a half of urine by the urethra. Since that time, the amount passed *per vias naturales* has gradually increased. The wound has healed primarily, except where the drainage-tube is inserted, and the patient's temperature has scarcely risen above normal since the operation.

Mr. Lucas's case of nephrectomy, performed on October 20th, left the hospital well just three weeks from the date of the operation.—*British Medical Journal*, November 21, 1885.

ANTIPIRETIC ACTION OF THALLIN.—At the suggestion of von Jacksch, JACCOUD has administered thallin in eleven febrile cases, chiefly typhoid and tubercular. The sulphate and the tartrate of thallin were used with equally marked results; the average daily dose was eight grains, with a maximum of fifteen grains and a minimum of one and a half grains. The thallin salt was given in divided doses of two and a quarter to three grains at intervals of fifteen to thirty minutes.

The effect of the drug thus administered was constant, the average fall of temperature being 4.05° F. One patient, who received fifteen grains of the salt in the course of two hours, was threatened with collapse, the temperature falling 10.08° F. Jaccoud, therefore, states that great care must be exercised in avoiding the exhibition of an excess of the drug, and considers

three-quarters to one and a half grains per hour, until the desired result is attained, as probably the correct dose.—*Gaz. des Hôpitaux*, 1885, No. 73.

GRAFT OF FROG'S SKIN UPON HUMAN NECK.—M. PETERSON has repeated his previous experiments relative to the grafting of frog's skin. The patient in this case suffered from an ulcer of the neck, and refused to furnish the flakes of skin needed for the grafting. Six graftings of frog's skin were required, several flakes being employed upon each occasion. The patient was discharged, as cured, forty-two days from the beginning of the treatment.—*Gaz. Hebdom. de Méd. et de Chir.*, Nov. 13, 1885.

HYDRO-PNEUMOPERICARDIUM PRODUCED BY ROUND ULCER OF THE STOMACH.—DR. PARISOT, of Nancy, has collected (*Revue Médicale de l'Est.*, Oct. 1, 1885) six cases of this grave complication of gastric ulcer. The disease in each case was fatal, the termination being either cardiac paralysis or asphyxia. Out of 14 cases of pneumopericardium, from divers causes, only 4 ended in recovery. When the diagnosis of hydro-pneumopericardium is once made, the diagnosis of its origin from round gastric ulcer is based upon the following points:

1. Dyspeptic symptoms, hæmatemesis, etc.
2. Percussion: same pitch of sound in epigastric and præcordial regions.
3. Auscultation: transmission of abnormal bruits from præcordial region across the intestinal mass.
4. Functional derangements: general discomfort, and augmentation of dyspnoea by the presence in the stomach of volatile liquids (*e.g.*, ether).

Treatment. Prophylaxis.—The sufferer from round gastric ulcer must avoid all exertion, in order that the chance of rupture of the ulcer into the pericardium may be diminished. Cough and vomiting are for the same reason to be combated.

The communication between the pericardium and stomach once established, nothing remains but palliative treatment; nutritive enemata are, of course, in order, and the amount of fluid permitted to enter the stomach at one time should be very small. All medicinal agents (morphia, ether) should be exhibited only by the hypodermic method.—*Rev. de Thérap.*, Nov. 1, 1885.

INJECTION OF ESSENCE OF TURPENTINE IN FISTULÆ.—M. SETT. CECCHINI (*Annali univ. di Med.*, 1885, p. 101) claims for the injection of turpentine in fistulæ an alterative, a cicatricial, and, above all, an antiseptic action, in which last regard he considers the drug to be superior to carbolic and salicylic acids, thymol, and even the salts of mercury. It is injected either pure or diluted with olive or almond oil. The action is better and more rapid if the undiluted essence is used. With timid patients the essence of turpentine is mixed with a solution of chloride of morphia, with a reduction to a minimum of the pain involved. The method has been employed by Cecchini with success in five out of seven cases of anal fistula; without failure in six cases of caries of the petrous bone, and in eight cases of dental fistula complicated by a greater or less degree of caries of the maxilla. This treatment failed in one case of fistula of

Steno's duct, and was completely successful in fifteen cases of atonic fistula.—*Gaz. Hebdom. de Méd. et de Chir.*, Nov. 13, 1885.

COCAINE IN THE TREATMENT OF VAGINISMUS.—According to J. SCHRANK (*Wien. med. Wochenschr.*, 1885, No. 38) vaginismus may be regarded as the analogue of anal fissure, both in its symptoms and in its mode of causation. The condition is usually associated with a narrow vagina and tough hymen, the rupture of which latter, during introitus vaginæ, extends further than is needful. After producing local anæsthesia by the application of a four per cent. solution of cocaine, he dilates the vagina with a rectal speculum, thereby preventing cicatricial contraction of the lacerated parts, —with resultant disappearance of the vaginismus.—*Deutsche med. Wochenschr.*, 1885, No. 43.

THE PRESENCE OF PEPTONE IN INCUBATED HEN'S EGGS AND IN FIBROMATA OF THE UTERUS.—The earlier observations of FISCHEL (*Arch. f. Gynäk.*, Bd. 24 S. 425, 1884), in which he found peptonuria to be a frequent concomitant of pregnancy, and constantly present in the puerperal state, have led to further interesting experiments. In the course of 1884-85, forty-two hen's eggs, in various stages of incubation, have been carefully examined for peptone by the biuret reaction, with polarimetric confirmation, by Huppert's method. Peptone was absent until the fifteenth day of incubation, but usually present thereafter. Fischel is apparently unacquainted with the observations of Reichert, of Philadelphia, who has demonstrated the presence of peptone in the unincubated egg (*Phila. Med. Times*, May 17, 1884).

Fischel has further twice investigated uterine fibromyomata, and has shown the presence of peptone therein in both instances. The peptone in question appertained to the tissues of the tumor, inasmuch as in the contents of the abundant lymph and bloodvessels the peptone reaction was absent.—*Zeitschr. f. physiol. Chem.*, November 2, 1885.

PAROTITIS AFTER OVARIOTOMY.—The well-known connection existing between the parotid gland and the genital apparatus, frequently manifested in a swelling of the testis subsequent to parotid inflammation, has recently been found to express itself when the reproductive gland constitutes the initial point of irritation. Thus in addition to the case of Billroth, in which parotitis followed a traumatic orchitis, there are now on record nine cases in which inflammation of the parotid appeared as a sequel of ovariectomy. Five of these cases are described by Möricke (*Centralb. f. Chir.*, 1880, p. 667); two by Macdonald (*Edinb. Med. Journ.*, July, 1885); and two by Matwëff (*Ann. de Gynéc.*, xxiv. p. 105). In only one of these cases did any possibility of infection exist.—*Centralb. f. Chirurgie*, November 14, 1885.

MERCURIAL SOAP.—DR. SCHUSTER, of Aix, describes a mercurial soap, infusions of which induce distinct swelling of the gums and increased salivary secretion after from five to twelve applications of ten to fifteen minutes' duration.

The composition of the soap, as made for Schuster by a local apothecary, is as follows:

Lard	400 parts.
Liq. kali. caust. (sp. gr. 1.33)	200 "
Saponify <i>lege artis</i> , and add water	100 "

Four hundred grammes of mercury are then most carefully rubbed up in two hundred grammes of tallow, with the addition of a little chloroform, which favors the subdivision of the mercury, and slowly, but completely, evaporates. Six hundred grammes of the potash soap, as above prepared, are slowly added and thoroughly mixed.—*Monatshefte f. prakt. Dermatologie*, November, 1885.

PROPHYLAXIS OF GONORRHOEA.—After passing in review the various hygienic procedures designed to diminish the liability to gonorrhœal infection, M. MARTINEAU strongly recommends the use of warm solution of bichloride of mercury, one part in five hundred, as a wash and injection. "It is desirable," he adds, "that every prostitute should have this solution in her room for the use of both parties before and after coition. The application of this solution to the surfaces exposed to contagion is without danger, and is very efficacious in its action upon the gonococcus." The formula given is as follows:

R.—Corrosive sublimate	2 parts.
Ammonium chloride	6 "
Alcohol	200 "
Water	q. s. ad. 1000 "

—*Rev. de Thérap.*, Nov. 15, 1885.

SUICIDAL ATTEMPT WITH PETROLEUM.—REIHLEN (*Aerztl. Intelligenzbl.*, 1885, No. 35) reports the case of a vigorous female servant, twenty-two years of age, brought, unconscious, into the hospital. No response to auditory stimuli, and but feeble reflex movements when pricked with a needle. General appearance that of one in deep sleep; pupils reacted promptly; pulse, respiration, and temperature normal. No appreciable alteration in viscera. Odor of petroleum very marked, though a few drops only could be obtained on siphon out of the stomach. It was learned that the patient had, without vomiting, drunk five fluidounces of ordinary pure petroleum.

In the course of the afternoon patient urinated, and in the evening she recovered consciousness. On the following day she was greatly exhausted and very dull, but on the third day was completely recovered. The urine of the first day was apparently normal. A sample obtained by the introduction of an unoiled catheter, forty-eight hours after the attempt, possessed a strong oily odor, and showed a few large oily drops upon its surface, which analysis showed to consist of petroleum. No albumen or morphological constituents were at any time found in the urine. The odor of petroleum in the breath disappeared after five days.

Cases of poisoning with petroleum are rare and almost always progress favorably.

Merkel relates the case of a man who drank habitually an ordinary liquorglass of petroleum several times weekly without any disagreeable consequences.—*Deutsche med. Wochenschr.*, 1885, No. 43.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author. Editor's Address, No. 1004 Walnut St., Philadelphia.

SUBSCRIPTION PRICE, INCLUDING POSTAGE,

PER ANNUM, IN ADVANCE, \$5.00.
SINGLE COPIES, 10 CENTS.

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in registered letters.

Address, LEA BROTHERS & CO.,
Nos. 706 & 708 Sansom Street,
PHILADELPHIA.

SATURDAY, DECEMBER 12, 1885.

THE FUTURE OF THE CONGRESS.

It is generally conceded that the miscarriage of the plans for the organization of the proposed International Medical Congress at Washington has inflicted an injury upon the profession of this country which is widespread, and cannot yet be fully estimated, and a latent hope has been largely indulged in that some plan might still be devised by which all differences could be healed, the profession harmonized, and its good name rescued from imminent disgrace.

The time which should have been spent in active preparation for the great International gathering is now half gone, and to-day we have to show as the net result of the work yet done—discredit abroad, apparently hopeless dissension stirred up at home, and no actual preparation for the meeting. But eighteen months still remain, and we are so hopeful as to believe that even in that short time it is yet possible in a great measure to wipe out the injury done, to restore largely our good name abroad, to reunite our profession at home, and to make such preparations as will result in a creditable meeting of the Congress in our National Capital; but to effect this, immediate, concerted, and Herculean efforts, together with extensive mutual concessions, must be made—a delay of ninety days will make the difference between positive failure and possible success.

It is useless to consider the causes which have produced the existing lamentable condition of affairs; each side has its own explanation, but the fact remains. The time has now arrived when honor rises superior to all other interests, and demands that we shall combine for international purposes, and make good the invitation which, in the name of the medical pro-

fession of this country, was extended to our brethren of foreign lands to hold their next Congress at Washington.

Everyone who has had the true honor of his profession at heart, regardless of the mistakes that he thinks others have made, has looked upon the situation with feelings of the deepest sorrow and mortification, and has felt that, under the circumstances, any honorable sacrifice to avert the threatened disaster was a duty he owed to his profession and to his country. In this feeling the profession of Philadelphia share. Their city was the birthplace of the American Medical Association, and gave her the Code of Ethics. She is as thoroughly loyal to the Association and the Code now as she was thirty-eight years ago. Actuated by the same motives which influenced her then and made her a potent factor in the councils of the national profession, Philadelphia, after mature deliberation, exerts her influence again to-day for harmony, for concert of action, for the re-establishment of the good name of the profession, for the integrity of the American Medical Association. As she lately felt impelled by duty to set her face against the disastrous influences which were warmed into life at the New Orleans meeting, and are tending to the disintegration of the Association, and, as her voice went not unheeded, she now is emboldened to speak again, to the end that a practicable solution of our difficulties be enforced, so that our pledges to our foreign brethren may be redeemed, and our honor not become throughout foreign lands a byword and a reproach. Such a solution must be formed on a basis sufficiently broad to harmonize the whole profession; and, probably, the only practicable way of reaching it now would be, as the profession of Philadelphia have formally pointed out, by a union of the present Executive Committee with the Original Enlarged General Committee, and by this joint body beginning the work of preliminary organization *de novo*. Nothing less than this will meet the exigencies of the case.

We cannot but hope that the few who now have it in their power to effect this harmony will use their influence to that end, and by their action, under the present trying circumstances, show that they are ready to sink personal considerations for the public good. The occasion is one for the display of the highest patriotism, and the end to be attained is worthy of the greatest sacrifices. In accordance with the motto of one of the oldest medical societies of our country, let them act, *non sibi sed toti*.

TREATMENT OF ANEURISM OF THE ABDOMINAL AORTA.

THE medical treatment of aneurism of the aorta, consisting chiefly in absolute rest, starvation, and the administration of the iodide of potassium or of ergot,

or of digitalis, has effected cures in a certain number of cases. Yet there will always be many which are not amenable to these methods, and which will require some surgical interference unless the patient is to be abandoned wholly to his fate.

The conventional treatment for other aneurisms, namely, ligation, is perhaps quite inapplicable to aneurisms of the aorta. For those of its abdominal part the operation has never been done. It is true that this part of the aorta has been ligated not less than ten times, but eight of these operations were done as near the iliac bifurcation as possible, for aneurisms involving the vessels below; while once the aorta was tied by mistake for the iliac, and once it was tied because it was impossible otherwise to control hemorrhage from the renal artery after extirpation of the kidney. Of the patients, none lived more than a few hours, except one, operated upon by Monteiro, who survived ten days and died of hemorrhage from an opening in the aorta above the ligature, and one of Patrick Heron Watson, who lived seven days and died of gangrene of the legs. References to all of these operations are given in the sixth edition of Gross's *Surgery*, and full and accurate details of them are to be found in a recent paper by P. LIEBRECHT, of Liège (reprint from *Journal d'Accouchements et Revue de Méd. et de Chir. pratiques*, Sept., Oct., and Nov., 1885), which contains a translation of, and comments upon, a report of an operation for the cure of an abdominal aneurism, high up on the aorta, by Loreta, of Bologna.

In this case Loreta, after a careful study of its peculiarities and of the results of other operative procedures in analogous cases, decided to open the abdomen, and to introduce into the sac of the aneurism a metal wire. This he did, using a silvered copper wire, half a millimetre in thickness, which he passed through a fine canula, piloted by a trocar and thrust into the aneurism. When he had introduced more than two yards of the wire, he pushed the end of it into the sac, and withdrew the canula. He now touched the point of puncture with carbolic acid, and had not a drop of bleeding. The further details of the operation consisted in replacing the viscera: the colon, stomach, and omentum, and in closing the wall of the abdomen with nine interrupted sutures. The wound healed by first intention, and the patient's condition was at once improved. The tumor, which had been as large as the head of a newborn child, diminished to the size of a walnut by the seventieth day after the operation, when the aneurism was considered to be cured. On the ninety-second day after the operation the patient died of rupture of the aorta below the sac. An autopsy disclosed the fact that the aneurism was filled with consolidated fibrinous clots, and was of the smallness mentioned. The rupture of the aorta

below the sac was attributed by Loreta to an hæmæmia of the tunics of the aorta, due to compression and to changes going on in the interior of the sac. Besides this, the patient was believed to be syphilitic.

It is to be noted as a defect in the report of this case, that the account of the autopsy does not settle distinctly the exact seat and relations of the aneurismal sac, or the causes of some of the symptoms observed before the operation.

But we have here a noteworthy contribution to the methods of treating aneurism within the abdominal cavity. The operation may be considered, we think, a practical success, and to invite imitation. The operator acknowledges his indebtedness to the practice of Moore of London, who, in 1864, introduced twenty-six yards of fine wire into an aneurism of the ascending aorta, but whose patient died in a few days. The practice of Levis, of Philadelphia, who first introduced horsehair into an aneurism, was not imitated by Loreta, because he feared septicæmia. If he had been familiar with the innocence of disinfected horsehair, used as a drain, we think he would not have objected to it on the ground mentioned. Indeed, we believe that such disinfected horsehair may yet prove to be the best foreign substance to introduce into an aneurism; for we cannot avoid the suspicion that the fatal termination of Loreta's case may have been caused by mechanical irritation of the wall of the aorta due to the rigidity of the material he used.

In deciding upon an operation for the cure of an aneurism of the abdominal aorta, it would not be right to overlook the comparatively good results which have followed the employment of mechanical compression, as by Lister's compressor. Of twelve cases treated in this way, five—one of which seems almost incredible—have recovered, two are set down as failures, and five died soon afterward of peritonitis, gangrene of the intestine, or rupture of the sac.

Finally, we would call attention to a suggestion made by Liebrecht, in the paper before us, that a method similar to that so successfully employed by Loreta might be combined with partial occlusion of the lumen of the aorta by a ligature which should not obliterate it entirely. This might prove a valuable modification of the operation by introducing wire or horsehair, which, before the case we have been discussing had appeared, has been adjudged by some of the most eminent surgical authorities to be utterly useless. One swallow does not make a summer; but we believe one success like that of Loreta warrants a reconsideration of this opinion.

UTERINE HÆMOSTATICS.

UTERINE hemorrhage is so frequent an accident, and in so many cases has such serious consequences, immediate or remote, that means for its arrest have

been eagerly sought. Medicines that have been, or are used as uterine hæmostatics, may be counted by the score, but he who should try these various means would probably, at the end of his experience, be in the condition of Sganarelle, in one of Molière's plays, who said, "Remember never to believe anything, even if you should see everything." Some one has said that the end of all philosophy is a learned doubt, and certainly the end of all investigations as to the value of the many medicines asserted to be uterine hæmostatics will be a learned doubt, if not a positive denial of such virtue to the majority of these, and a qualified approval of the few remaining. Indeed, we know a distinguished gynecologist who rejects this entire class of agents; he has been so often disappointed by individual members of it, and relies solely upon copious vaginal injections of hot water.

Probably the tendency of therapeutics in recent years is to rely less upon the gross elements of materia medica, the things which we can see, handle, weigh, and more upon the subtle forces, such as heat and electricity, which the physician can bring to his command. And this tendency is very clearly shown in the department of obstetrics and diseases of women. The astringents, mineral or vegetable, which were once in such vogue, are now rarely employed for the cure of uterine hemorrhage; if the hemorrhage be grave and the danger imminent, one hardly feels like trusting a medicine which must first enter the circulation and then, in almost infinitesimal dilution, travel to the bleeding part, having there slight or doubtful therapeutic influence, when, by either of the forces mentioned, an instant and positive effect can be produced in most cases. Contraction of bloodvessels, or of the musculature of the uterus, or of both, must be the ultimate styptic power. The sooner that contraction is evoked, therefore, the better. A foreign body, as from incomplete abortion, or as in retention of the placenta in labor at term, may prevent perfect uterine contraction, and, therefore, this foreign body must be removed before a permanent cure is effected.

We may, by certain remedies, such as digitalis, slow the circulation, and thus lessen the flow, but we do not thereby cure. When hemorrhage results from an altered condition of the blood so that it has lost its plasticity, and thus one hemorrhage invites another, deep calling unto deep, we may in some of the cases ultimately cure the flow by remedies which improve the condition of the blood, a process, however, which requires weeks for its accomplishment. When the hemorrhage is consequent upon a toxæmia, as malarial poisoning, medicines addressed directly to that state, such as quinine or arsenic, in most cases prove of marked value.

The tincture of Indian-hemp has been strongly

recommended in the hemorrhage caused by uterine fibroids, and in menorrhagia associated with painful menstruation: it is an uncertain remedy, and when it does do good, probably it is solely from the relief of the pain which acts in causing an increased afflux of blood to the uterus. So too opium may, in like manner, act favorably in similar cases, yet neither of these remedies is to be regarded as a certain uterine hæmostatic. The alkaline bromides, from their sedative influence upon the ovaries, may have a beneficial influence in some cases of menorrhagia.

A few months ago a distinguished German authority reported very favorable results from the tincture of hydrastin. The use of this agent for the relief of uterine hemorrhage is not new, at least in this country, but we cannot say from our own experience with the drug, which is probably too limited to justify a positive opinion, that its beneficial action is observed in all cases, or even in the majority. Kugelmann, however, has recently stated that he had succeeded in causing the menopause by hydrastin administered internally, and the local application of iodine.

Hamamelis has received the strong endorsement of CHÉRON in the October number of the *Revue Médico-Chirurgicale des Maladies des Femmes*. He advises fifteen to sixty drops of a tincture made of equal parts by weight of hamamelis and alcohol, twice a day. He also uses the solid extract, one part to five of glycerine, as an application to the neck of the womb, or the extract with cocoa butter, as a vaginal suppository. He asserts that this medicine exerts a positive influence upon hemorrhages and passive congestions, and upon the pain which accompanies these morbid states.

Ergot probably ranks in the professional mind at the head of uterine hæmostatics. It certainly is one of the most valuable remedies both for the obstetrician and the gynecologist. Without considering the obstetric uses of this agent, we may remark that its value in controlling uterine hemorrhage bears a direct relation to the development of the uterus; if this organ be of normal size in the unimpregnated condition, the power of ergot is usually slight, whereas if it be much enlarged, as by a fibroid tumor, that condition termed fibrous pregnancy existing, more decided effects from the remedy may be justly expected. We believe, in all cases of uterine hemorrhage, whether consequent upon a fibroid or not, and when the medicine is continued for a length of time, iron can be usefully combined with it, though there has been a vague notion that iron increases the flow, and, hence, is not to be administered when this is excessive. But, in the ergot treatment of uterine fibroids, it frequently happens that a good result is not obtained until the medicine is administered hypodermically. Why this should be so does not seem clear; that it is so some excellent professional observers

assert. In hemorrhage from cancer ergot is useless; and this statement is true, whether the hemorrhage be caused by active congestion as it is in the early stage of the disease, or whether it result from ulceration, as it does in the further progress of the malady.

Time permits a reference to only one other uterine hæmostatic, to wit, hot water. This is applied by means of a rubber bag to the lumbar vertebra, or by vaginal injections. For the vaginal use of hot water to lessen profuse menstruation the profession is indebted to Trouseau, though its general use in uterine hemorrhage must be credited to Emmet. Vaginal injections of very hot water constitute one of the most certain means for the arrest of uterine hemorrhage; in some cases the injection is carried into the uterus. Those who have frequently failed with this means certainly have not used the water hot enough, or in sufficient quantity, or with the patient in proper position.

In regard to the mode of action of heat thus applied, all are agreed that it produces contraction of bloodvessels; though some, as Kleinwächter, insist that dilatation soon returns. Be this as it may, we have always regarded one of the asserted proofs of contraction of bloodvessels thus affected as possibly an erroneous interpretation of a fact. The shrivelled, shrunken skin of the fingers of a washerwoman, after having her hands in "the suds" for a time, is appealed to as a proof of the contractile power exerted by hot water. But the condition may be dependent upon osmosis from the vessels of the hand, rather than upon muscular contraction of bloodvessels. Those vessels are relatively emptied, not by compression, or at least not solely by it, but by the pressing out of a portion of their contents.

A NEW HYPNOTIC.

A MIXED acetone, known as phenyl-methyl acetone, the actions of which have been studied by Popof, of Warsaw, has been found by Dujardin-Beaumetz and Bardet, to possess valuable hypnotic properties. Within the body it is transformed into carbonic and benzoic acids, and is finally eliminated in the urine as hippurates. A dose of from 5 to 15 centigrammes, mixed with a little glycerine, and given in a gelatine capsule, causes in an adult a profound sleep. In alcoholic insomnia it seems to act better than chloral or paraldehyde, and in nine cases no ill effects were observed. The odor of the breath is rendered unpleasant by the elimination of acetone from the lungs. Injected beneath the skin of a guinea-pig it produces a remarkable torpor, which gradually deepens into coma, and the animal dies in five or six hours.

The name *hypnone* is suggested as a more suitable designation for this acetone.

REVIEWS.

AN ATLAS OF CLINICAL MICROSCOPY. By ALEXANDER PEYER, M.D. Translated and Edited by ALFRED C. GIRARD, M.D., Assistant Surgeon, U. S. Army. Ninety plates, with 105 illustrations. New York: Appleton & Co., 1885.

IN glancing over the original, *Microscopie am Krankenbette*, there was something about the work which we did not like, a flavor which did not commend itself to our mental palate. This seems a little less apparent on a careful inspection of the translation; though it remains very evident that the work is not one of a master. Dr. Peyer is a practitioner at Schaffhausen on the Rhine, who, after five years' practice, revisited the University in order to fill certain gaps in his knowledge. Clinical microscopy engaged a large share of his attention, and at the suggestion of a friend he began to draw systematically the various microscopic preparations he met with in practice. In the course of a few years, he thus accumulated a large number of drawings, and this *Atlas* is the result. The plates are generally good—better, on the whole, than the text. There are, however, some exceptions; the figures of anthrax bacilli in the blood do not represent these bodies. Either Dr. Peyer is a poor artist, which the excellence of the other drawings shows is not the case, or the specimen was one of vibriones. In the text, too, he speaks of the organism as "a globular or rod-shaped bacterium!" Neither the plates nor the description of the epithelium from the genito-urinary passages are reliable; the author has evidently never made a careful study of the epithelium of these parts in health. Eleven of the ninety plates illustrate spermatorrhœa, four or five of which are quite superfluous. Far too great stress is laid upon this condition, and not a word is said of the fact that a slight loss of semen at times with the urine may be considered normal in many men. The microscopy of the stools, which is stated to be the one least cultivated by the practitioner, has not sufficiently engaged Dr. Peyer's attention, or we should have had more than a single plate illustrating this important subject. We regret that we cannot recommend Dr. Peyer as a safe guide to the practitioner; the more so as the profession is just now in need of a good work on clinical microscopy. It is to be hoped that the translation of Bizzozero's *Manual*, which has been announced, will soon appear, as it will supply wants which this work scarcely meets. The author of this *Atlas* must not be confounded with the learned Professor of Physiology at Jena, W. Preyer—a mistake which we have heard made.

The translation seems very good; the plates are beautifully executed, and the work has the excellent finish which characterizes Appleton & Co.'s medical publications.

THE MEDICAL NEWS VISITING LIST, 1886. Philadelphia: Lea Brothers & Co., 1885.

THIS is not simply a visiting list, but will be a true *vade mecum* for the busy practitioner, who will find in the first fifty pages an astonishing amount of valuable information in a condensed form. The therapeutic section covers nearly twenty pages and contains a valuable

table arranged from Lauder Brunton's text-book. A section on the ligation of arteries seems out of place in a visiting list, but a surgical emergency may arise when the practitioner is far from books and assistance, and just such a short account as is here given may refresh his memory and give steadiness to his hand. It appears in a firm, substantial dress, needful for a book so constantly in use.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 3, 1885.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

NOMINATIONS FOR OFFICERS.

THE following nominations were made:

Vice-President: Drs. Henry D. Noyes and Wm. H. Draper.

Recording Secretary: Drs. Arthur M. Jacobus, George L. Peabody, and Frank P. Foster.

Corresponding Secretary: Drs. A. R. Robinson, H. J. Garrigues, and Wesley M. Carpenter.

Treasurer: Drs. Wm. H. Cushman, Joseph D. Bryant, and D. B. St. John Roosa.

Committee on Admissions: Drs. J. H. Emerson and Laurence Johnson.

Committee on Ethics: Drs. S. O. Vanderpoel, Joseph D. Bryant, and A. B. Judson.

Committee on Medical Education: Drs. D. B. St. John Roosa, David Webster, and C. Heitzmann.

Committee on Library: Drs. C. H. Katzenbach, J. A. Andrews, Laurence Johnson, R. H. Amidon, and Chas. T. Poore.

Trustees: Drs. George A. Peters and James H. Anderson.

THE WILLARD PARKER HOSPITAL.

The Secretary read a communication from Dr. E. H. James, Assistant Sanitary Superintendent of the Board of Health, announcing that the new Willard Parker Hospital, in East 16th Street, is now open for the reception and treatment of cases of contagious disease, and invited the President and Fellows of the Academy to visit it and inspect its accommodations. It is provided with a resident physician and a corps of trained nurses, and is designed for the treatment of patients suffering from such diseases as scarlet fever and diphtheria, who cannot receive proper care in their own homes.

DR. MORRIS H. HENRY read a

REVIEW OF THE LIFE OF THE LATE DR. LOUIS ELSBERG, AND OF THE ADVANCEMENT OF OUR KNOWLEDGE OF DISEASES OF THE THROAT DURING HIS PROFESSIONAL CAREER.

He paid a tribute to the memory of the late Dr. Horace Green, who died twenty years ago. As Dr. Elsberg was the first in this country to teach the use of the laryngoscope and to hold a public laryngological clinic, so Dr. Green was the first teacher of medicine who paid special attention to diseases of the throat.

DR. SAMUEL W. SMITH read a paper entitled

ORIGINAL DEDUCTIONS BASED ON A STUDY OF ONE HUNDRED CASES OF FRACTURE OF THE UPPER EXTREMITIES, EXCLUDING THE HAND.

He stated that he claimed no originality in what he had to say, except in regard to the use of certain splints devised by himself, which, so far as he was aware, had not before been employed. Nearly half of the hundred cases had been in children under twelve years of age. Of those occurring in children under twelve, twenty-five were fractures of the clavicle; while in patients between the ages of twelve and fifty, only eight had been fractures of the clavicle. Having spoken of the character of fractures of the clavicle observed by him, the deformity in which he attributed in large measure to the action of the subclavius muscle, he went on to treat of fractures of the humerus, in describing which, he mentioned that he referred particularly to those of the lower end of the humerus, where the fracture was through one or both condyles or caused a separation of the epiphysis. In speaking of fractures of the radius he paid special attention to the so-called cases of Colles's fractures, and referred to the character of the obliquity that is met with in different cases. The kind of apparatus required in any case, he said, depends on whether the obliquity is long or short. He denominates fractures of the lower end of the radius Colles's fracture only when they are of the long oblique variety. When the fracture is transverse, or of short obliquity, the deformity is easily reduced and the fragments readily retained in position.

In the treatment of fractures of the clavicle, of course, a great variety of apparatus has been devised, but those most commonly in use are Desault's method, with the axillary pad, Levis's modification of Fox's treatment, Sayre's adhesive plaster dressing, and E. M. Moore's shawl or figure-of-eight bandage. Sayre's method is simple and generally efficient, but a great objection to it is the irritation of the skin which the plaster is liable to produce, especially in young subjects. The compression of the forearm across the chest also interferes more or less with the circulation, and may cause so much discomfort as to call for its removal. Consequently, Dr. Moore's dressing is a step in advance; but neither the Moore or Sayre method is efficient when the seat of the fracture is located near the inner third of the clavicle, and long oblique. In a case of this kind he had resorted, with good effect, to a modification of Moore's figure-of-eight bandage, which consists in making a clove-hitch around the arm near the elbow.

More recently he had devised an apparatus of his own, which seems to possess all the advantages of the other dressings in use, and also some peculiar to itself. In this the elbow, secured in a leather sling, is drawn inward and backward by means of straps passing to a padded band, which is placed in the axilla of the opposite side, and fastened over the shoulder. A boy, in whose case a perfect result had been secured, was shown wearing the apparatus, and photographs were also shown which were taken before the latter was applied, exhibiting very marked deformity, and at the conclusion of the treatment.

In fractures of the condyles of the humerus, he said that he was convinced that the active combating of the inflammation usually manifested in the joint, is the

only safeguard against ankylosis. When only one of the condyles is implicated, the ordinary anterior splint is generally efficient; but when the fracture involves both condyles, constituting what is known as a T fracture, he has found the usual methods of treatment quite inadequate. A varied experience, full of disappointments, in the use of the known splints in the more severe fractures of the condyles, had set him to work to make a splint with the following requisites:

- (1) To hold the fragments firmly in apposition.
- (2) To allow the forearm to be flexed and extended, pronated, and supinated.
- (3) To lengthen or lessen the external lateral angle of the arm with fixation.
- (4) To leave the entire elbow exposed for the purpose of making local applications during the whole time of wearing the splint, without disturbing the latter.

Such a splint he had accordingly devised, and he now exhibited it, consisting of two rods of untempered steel, with ball-and-socket joint, and fixation screws at the elbow and wrist; the rods being secured to the arm and forearm by means of plaster-of-Paris bandages. It had long been a mooted point among surgeons, he said, how soon passive motion of the joint should be commenced; some claiming that this should be at the end of a week, and others, not for three or four weeks. For his own part, he thought that the character of the injury in any given case should regulate the time for beginning passive motion.

In speaking of the treatment of Colles's fracture, he said that he had also devised a splint of his own for this; but his experience with it had not, up to the present time, been sufficiently large to warrant him in expressing any definite opinion in regard to its merits. He said, in conclusion, that he wished emphatically to protest against any splint whatever being left on for a week or more in any case of Colles's fracture. It is his own practice to remove the dressing every other day, and he said that unless this is done, deformity is very likely to result. To illustrate this, he mentioned a case in which a splint was allowed to remain on uninterruptedly for two weeks, when it was replaced by a plaster-of-Paris bandage, which was not disturbed for six weeks. The result was a very bad arm. In the course of the paper Dr. Smith also reported a large number of illustrative cases occurring in his own practice.

DR. JOSEPH D. BRYANT said that the cause of the deformity in fracture of the clavicle had been the subject of much dispute among surgeons; but in his opinion it depends simply on the fracture of the bone, and not on the action of any particular muscle or set of muscles. He spoke of the difference in the deformity according to the situation of the fracture, and said that he could not agree with the author of the paper that it is due, at least to any great extent, to the action of the subclavius muscle. If in the cadaver the clavicle be fractured, and the body hung up, it will be found that the same deformity results as in the living subject; and, therefore, it seems hardly likely that it is produced by muscular action. As to the method of treatment to be resorted to in this fracture, any apparatus that meets the indications present will secure a good result; though some of the dressings employed no doubt have special advantages. The Sayre dressing meets the indications, and he has used it frequently, with good

results. The same is true of Moore's and others. In the same way, Dr. Smith's apparatus fulfils the indications, so far as he could judge from what he had seen of it to-night, and it seems to have the advantage over many others of greater comfort to the patient. This is an important point, and altogether he was much pleased with the dressing; so that he should like to give it a trial as soon as the opportunity occurred. On account of the lateness of the hour, he said that he did not feel that it would be right to discuss the other points mentioned in the paper.

DR. ALFRED C. POST spoke briefly of the different degrees of deformity produced by the location of the fracture at different points in the clavicle.

DR. GERLICH said that in one case in which he had employed Sayre's dressing he was obliged to remove it in a week on account of the discomfort which it caused the patient. After this he applied an ordinary bandage on the same principle as the apparatus devised by Dr. Smith, and the result had been entirely satisfactory.

DR. SMITH, in closing the discussion, said that, following Hamilton, he divided the clavicle into three thirds, and that deformity is always greatest when the fracture is situated in the middle third. As the insertion of the subclavius occurred at this part of the bone, it seemed reasonable to attribute the more marked deformity here to the action of this muscle.

THE REPORTING OF CONTAGIOUS DISEASES.

DR. C. R. AGNEW presented a resolution, which was unanimously adopted, to the effect that in the opinion of the Academy any judicial action which tends to prevent the early reporting to the Board of Health, on the part of the medical profession, of cases of contagious diseases, is contrary to public policy and detrimental to the public health.

PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, October 26, 1885.

THE VICE-PRESIDENT, CHARLES K. MILLS, M.D.,
IN THE CHAIR.

DR. HENRY M. WETHERILL, JR., read a paper on
HYOSCINE HYDROBROMATE.

We do not, as yet, know accurately the history of the discovery and introduction of this most important and valuable therapeutic agent; but certain it is that Landenberg, of Germany, was the discoverer of hyoscine and the first to investigate its properties. His observations were seconded by those of Edelfsen, Gnauck, Emmert, and others on the Continent. The English current medical literature has, I think, not made mention of it. To Dr. Horatio C. Wood belongs the credit of being one of the first to investigate its action in this country, as seen in his admirable monograph published a few months since.

It is said that hyoscine is prepared by a rather complicated process from the alkaloid hyoscyamine by treating the latter with baryta-water. The pure alkaloid hyoscine is so volatile and perishable that it is not available as a therapeutic agent unless combined with acids, which form with it salts of fair stability. Those at present found in the drug market are the hydriodate, hydrobromate, muriate, and, I think, the sulphate. My

experience has been wholly with the hydrobromate, and it is this salt alone of which this paper treats. The most reliable is that produced by E. Merck, Darmstadt, whose three accredited agents in New York are Lehn & Fink, Schieffelin & Co., and Eimer & Amend. It can be obtained of the leading pharmacists of this city. In its gross physical appearance it resembles small crystalline masses and granules of potassium bromide. It is light in relative weight, opaque white, but not purely so, slightly inclining to be yellowish, rather deliquescent when exposed to the air. Seen under the microscope, it was very evident that its crystallization had been facilitated by stirring, as much of it was in very irregular, granular masses; but when allowed to evaporate spontaneously from its aqueous solution, it showed under the microscope handsome quadrahedral crystals springing from a granular base. These were entirely free from extraneous matters, transparent, and highly refractive. The literature of hyoscine is rather meagre in America; brief notices of it are to be found in the more recent works on therapeutics and materia medica. The other works devoted to this subject are Dr. Wood's monograph, the paper by Dr. Judson B. Andrews found in the *American Journal of Insanity* for October, 1885, a paper emanating from the Hudson River Hospital for Insane, in the *Medical Record*, 1885, and some papers from the pen of Prof. John M. Maisch in the *Philadelphia Journal of Pharmacy* for November, 1885.

Hyoscine hydrobromate is freely soluble in cold distilled water; but it will be found desirable to add to this menstruum ten per cent. of alcohol as a preservative. The following I have found to be a convenient formula:

R.—Hyoscine hydrobrom.	gr. j.
Aqua destillat.	f ʒix.
Alcohol	f ʒj.—M.

In every ten minims of this solution there is $\frac{1}{100}$ th of a grain of the hyoscine hydrobromate. In prescribing the compounds of hyoscine care should be taken plainly to write in full the name of the salt, so as not to mislead the pharmacist with the impression that hyoscyamine has been ordered, and *vice versa*, as the hyoscine salts are far more powerful than are those of its sister alkaloid. Now thus having described the substance at some length, what have we found to be its exact physiological effects, and what do we find to be its true place in therapeutics after a very careful and painstaking study of its action which has extended over a period of six months upon the patients under our care in the Pennsylvania Hospital for the Insane? Before answering this question let me recount the effect produced upon myself by a very moderate dose taken by the mouth. I was in health at the time. Dose, $\frac{1}{100}$ th of a grain. Before administration, pupils normal, equal; pulse 88, good; respiration 20 per minute; skin normal; temperature 98° F. Within 45 minutes the pupils were evenly and moderately dilated, the voice was hoarse, face suffused, conjunctivæ injected, temperature raised to 99.5° F., respiration full, slowed to 16 per minute, pulse slowed to 64, very full, considerable general relaxation of muscles, decided general sweat, impaired coördination, and a sense of fullness in the head and of wretchedness. I managed somehow to get to bed, and at once fell asleep, and so continued for nine hours.

Awoke much refreshed, no ill effects, everything normal but the pupils, which were yet slightly dilated, but which regained normal conditions within two hours.

Now, in regard to our results as obtained by its use in the hospital. We have no hesitation in saying that as a hypnotic and sedative it has proved most valuable in our hands. As a hypnotic, the usual range of dose is from $\frac{1}{100}$ th to $\frac{1}{50}$ th of a grain, given at bedtime, preferably by the mouth—very frequently a less dose than gr. $\frac{1}{100}$ th will be sufficient; gr. $\frac{1}{50}$ th has often acted better in insomnia than has a larger quantity. It is seldom necessary to repeat the dose; and another very decided advantage possessed by hyoscine over hyoscyamine is that small doses can be continued for a long time without increase, whereas, the patient soon tolerates small and then moderate quantities of hyoscyamine, and, finally, resists even very large doses of it. We have given hyoscine a thorough trial in the insomnia occurring in the course of acute delirious mania, and with marked success, having succeeded, when all the usual modes of treatment had proved inadequate, in securing for the patient from six to ten hours of quiet sleep nightly for the past nine weeks, with but four or five exceptions; but one dose in every twenty-four hours, at bedtime, the amount ranging from gr. $\frac{1}{100}$ th to $\frac{1}{50}$ th. The insomnia in these cases is one of the chief elements of danger. If it is possible to give such a case a fair amount of sleep and of nourishment in a concentrated form, the probability of a favorable issue may be entertained. The insomnia of agitated melancholia, of the morphia habit, of alcoholism, of acute mania, of neurasthenia, of chronic mental disorder, with habitual wakefulness and motor activity, and in those confirmed cases of insomnia from unascertained cause, which usually prove so obnoxious to treatment, hyoscine has been found to answer a very good purpose. It does not invariably succeed; but the failures have been very exceptional. In many instances the chronic insomniac habit has been broken so as to permit of the withdrawal of the hypnotic. It is a severe test of the value of any hypnotic to administer it in daytime, and the drug under consideration has been found to act very well even under this condition. It seems scarcely necessary to refer to the unsatisfactory and often disappointing action of the hypnotics which are now in general use, and it would seem as though this remedy is the one for which rational therapeutics have waited for so long a time.

Now, as to its usefulness as a general sedative, we have had results which justify the assertion that it is the very best means at present at our disposal for calming the motor excitement of acute and chronic mental disorders, in their talkative, active, noisy, destructive, or violent phases. In this class of cases the range of doses may sometimes have to be greater than in the treatment of insomnia, from gr. $\frac{1}{100}$ th to $\frac{1}{50}$ th. I have seldom been obliged to give so much as gr. $\frac{1}{50}$ th, and have rarely had to give more than one dose in twenty-four hours. As an occasional exception, a patient has been found whose excitement has successfully resisted a full dose; but it must be remembered that some cases of chronic mental excitement have been dosed with varying success through a period of years, until a peculiar condition of resistance to, and toleration of, remedies of this class has become established. Where a large number of excited patients are congregated, even though they may be

classified with care, there are a few who seem to be the cause of most of the general disorder and confusion; reduce these few to a condition of comparative quiet, and the larger, but less aggressive, element remains tranquil. Following out this theory in the administration of hyoscine, we have had the satisfaction of seeing wards for excited patients quite transformed in character for the better; nor can this be fairly termed "medical restraint."

I have tabulated carefully our study of the physiological action of this remedy as a hypnotic and as a sedative, and have also tabulated our experience with hyoscyamine as a hypnotic. We had found the latter so decidedly inferior to hyoscine as a sedative that it was not deemed necessary to tabulate these results; but it must not be inferred from this that hyoscyamine is inert. It is a remedy of no mean value, and only second in activity to its sister alkaloid.

The tabulated statements to which reference has been made will appear in the forthcoming Report of the Committee on Lunacy of the Pennsylvania State Board of Charities for 1885.

Physiological Effects.—The physiological effect of a full dose of hyoscine—say, gr. $\frac{1}{32}$ —is manifested within twenty minutes. These are brief, transitory bewilderment, marked interference with coördination, widely dilated pupils, slow, regular, very full pulse, dryness of the throat, relaxation of the vocal cords, very slow, full respirations, sometimes becoming Cheyne-Stokes, marked effusion of the face and of the general surface of the body, a slight rise in temperature, and free diaphoresis, which does not seem to restore normal temperature. There is general muscular relaxation, and a sense of wretchedness. Sleep usually follows, which continues from one to five hours, if the dose is given in daytime and the patient is not put to bed. This amount administered at night would be followed by sleep lasting for eight or ten hours. The mydriatic effect is rather transient, but usually persists through an entire day. The pulse is slowed about twenty beats per minute, and this effect gradually wears away during eight or ten hours, and is often followed by a very variable period of pulse acceleration, which seems to be simply a reactionary hastening of the pulse to restore the disturbed balance of the circulation. The normal rate of respiration is gradually restored through a period ranging from three to five hours.

The rise in temperature is not an invariable result, and is frequently small—seldom exceeding one and one-half degrees—and the balance of temperature is usually restored within two or three hours. Dryness of the throat often persists through an entire day. Suffusion of the surface of the body is usually transitory. In moderate and in small doses the effect is, of course, proportionate to the amount employed; but the same general symptoms are present and the patient is quieted accordingly. Interference with the appetite is sometimes observed. It does not seem to act upon the bowels nor upon the kidneys.

Hyoscine is not always well borne; occasionally the following symptoms have followed the use of a moderate dose: Nausea, vomiting, anorexia, dysuria, syncope, with small, rapid, irregular pulse, and with symptoms of partial paralysis of the pneumogastrics. This untoward condition occurred in a case of epileptic mania,

in one of paretic dementia, in one of chronic dementia with excitement, and in one of acute hysterical mania. All of my personal experience of the action of hyoscine has been among females, and they are, I think, more susceptible to its action than are males. This is generally true of many drugs. Hyoscine is a spinal sedative of considerable activity. It has a decided influence over the spasms of a case of tetanus: a powerful man, whose life it certainly prolonged for some hours, and who died, not from convulsions, but from high temperature—this was, I think, 108° F. before death; but post-mortem, it rose to 116° F. This case was not mine, but I know that the observations were accurately taken with a corrected thermometer. Is it best to give the remedy hypodermically or by the mouth? It acts almost immediately, and in rather less dose, by the former method; yet we have preferred usually to give it by the mouth, as it acts very promptly when taken into the stomach, even in very small doses, and this method suffers no shock to an excited or timorous patient.

Among the physiological effects of hyoscine, one or two observers claim to have frequently noticed a primary acceleration of the pulse-rate, previous to its becoming slow and full. This I have not found to be the case, save in two instances, and even in these two cases the effect was not invariable. There is a source of possible error to be here taken into consideration—that the mere act of feeling the pulse, or even addressing some persons, causes a marked acceleration of the pulse, which may persist for some time should the patient be excited, timorous, apprehensive, or nervous.

From three observers of the action of hyoscine in another State, comes the report that their anticipations of the good effects of the drug had not been realized, after fair trial of an article which they thought was reliable; but there is reasonable ground for doubt that the substance employed emanated from Merck's laboratory. The evidence that it is a hypnotic and sedative of great value to the profession is rapidly accumulating. We have thus far found the different samples of Merck's hyoscine hydrobromate to be uniform in effect and in external characteristics, and are much pleased with its action. It has been in daily use and under close observation in our hospital practice, and we prescribe it with confidence in its activity. It is preferable to the other sedatives and hypnotics, as it is more certain and uniform in effect, convenient to administer, and free from injurious secondary effects.

DR. D. D. RICHARDSON said it had been his experience to find that hyoscine caused dilatation of the pupils. In some cases the pupils remain dilated for a few days; but, as a rule, the dilatation disappears sooner. The pulse was always much increased; with the exception of one case, it was always above 120. Respiration increased often to 40 per minute. He agreed with Dr. Wetherill as regards rise of temperature and increased respiration. The appetite is not influenced by the use of the drug. The secretions, he said, were generally increased, especially the kidneys. No constipation resulted from its use.

DR. CHAPIN had been a daily observer of the experiments of Dr. Wetherill, and entirely concurred with his remarks. He said he had always found the pulse to be hurried. The sleep which resulted from its use lasted from eight to ten hours. He thought the difference

of opinion of the physiological action of the drug might be due to different preparations of it.

DR. WETHERILL, in conclusion, said that the dryness of the throat was very decided. There was also a relaxation of the muscles of the throat.

DR. G. BETTON MASSEY read a paper on

THE PRINCIPLES GOVERNING A CHOICE OF CURRENTS IN ELECTRO-THERAPEUTICS.

He pointed out the value of more accurate conceptions of the differences in the physical character of faradic and galvanic currents as a basis for their intelligent selection. The therapeutic value of faradism is due entirely to its electromotive pressure, while the most useful medical quality of the galvanic current is its volume. Electromotive pressure and electric volume are essentially different articles of the materia medica, and should be so considered.

The therapeutics of "volt-pressure" applications were reviewed, including the differing indications for slow succession and rapid succession faradic currents, and were contrasted with the therapeutics of "milliampère-volume" applications. The paper concluded with the statement that the faradic current presents the best form of electricity for the treatment of those diseases in which a stimulation of mobility or sensibility is either directly or indirectly curative, with the single exception of disorders characterized by the appearance of degenerative response, while the constant galvanic current may be relied upon to fulfil the remaining possibilities of electricity in medicine.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, December 4, 1885.

THE PRESIDENT, T. G. RODDICK, M.D.,
IN THE CHAIR.

BLACK GALLSTONES.

DR. RICHARD MACDONNELL exhibited a number of gallstones which had been removed from a dissecting-room subject. The stones were of a jet-black color, and resembled peppercorns in shape and size. When dry they were very friable, breaking with a resinous fracture and being easily reduced to a powder resembling India ink. This kind of gallstones, though rarely met with, has been described by Budd, who gives an excellent colored illustration of them. They do not contain cholesterine, but are made up of bile pigment and lime.

APPENDIX VERMIFORMIS COMMUNICATING WITH THE ILEUM.

DR. MACDONNELL also exhibited a specimen of appendix vermiformis which had formed a communication with the ileum about an inch from the valve. A probe could be passed through the appendix into the ileum. It was thought that the attachment to, and communication with, the ileum was due to a concretion which had previously existed in the appendix and had caused adhesive inflammation; as the specimen was taken from a dissecting-room subject, there was no history.

THROMBOSIS IN THE LEFT VENTRICLE OF THE HEART.

DR. GEO. ROSS showed a heart which had been removed by Dr. Johnston from a patient who lately died

in the General Hospital. Both sides of the heart were greatly distended and there was marked bulging of the wall of the left ventricle just above the apex. The cavities contained soft blood-clots. There was no clot in the pulmonary artery or its branches. On opening the left ventricle a firm, decolorized, and apparently organized thrombus was found filling the spaces between the columnæ carneæ in the vicinity of the septum and projecting slightly into the cavity at a point corresponding to the bulging previously mentioned. The thickness of the thrombus exceeded that of the ventricular wall, which in places was reduced to one-fifth of an inch. A space between the thrombus and the heart wall was filled with a chocolate-brown fluid and the endocardium seemed to have disappeared. At some points the heart muscle was pale and in part fibroid. A small, firm, decolorized clot was also seen lying loosely behind the left coronary segment of the aortic valve, from this was prolonged a clot which completely plugged the left coronary artery. A small, firm clot filled the left auricle. Valves normal.

Dr. Ross remarked that the patient was a strong, healthy girl about twenty-five years of age who came into the hospital to be treated for an ulcer of the leg which was supposed to be of syphilitic origin. Suddenly she was seized with a violent pain in the left side of chest and great difficulty of breathing; her pulse was almost imperceptible at the wrist, and she was in great distress. The dyspnoea and pain grew worse and the patient gradually sank, and died five days after the first seizure. Dr. Ross at first thought it was a case of pulmonary embolism but was now at some loss to account for the symptoms.

DR. ARMSTRONG suggested that the clotting of the blood in the left coronary artery and the consequent loss of nutrition might, perhaps, account for the symptoms observed before death.

DR. T. WESLEY MILLS suggested that possibly the plugging of the coronary artery might explain the other clots and the peculiar symptoms, the lower clots being formed by the weakening of the heart's action due to loss of nutrition from plugging of the left coronary artery. In such an enfeebled heart a murmur could scarcely be expected to be heard, the obstruction to circulation and interference with nutrition giving rise to pain and disturbance of action of the pneumogastriacs. Dr. Mills, in conclusion, remarked that there were other cases reported with the same symptoms, due to plugging of the coronary artery alone.

ENCYSTED CALCULUS OF THE BLADDER.

DR. SUTHERLAND showed, for Dr. Arch. E. Malloch, of Hamilton, Ont., a bladder with an encysted calculus. Dr. Malloch's report was as follows: J. C., æt. 76, had cystitis of one year's standing, due to catheterization, necessitated by retention of urine, the result of hypertrophy of the prostate gland. The bladder had been sounded for stone on two occasions, and explored with the finger by an incision made in the perineum, but no stone was discovered; the bladder was drained through the perineal incision, but no appreciable relief followed, and the man died four days after. On examining the bladder post-mortem, its coats were found to be much hypertrophied, and the prostate of large size. The summit presented a diverticulum a third the size of the

whole bladder, and contained a calculus the size of a small marble, and composed of triple phosphates. The communication between the bladder and diverticulum was of small size, and would only admit a lead-pencil.

ELEPHANTIASIS OF THE LEG.

DR. SUTHERLAND exhibited a remarkable specimen of elephantiasis of the left leg, which had been sent to the Museum of McGill University by Drs. Gooding and Greaves, of Barbados. The leg had been removed from a negro aged 23, who had suffered since the age of 11 from attacks of fever. After each attack the leg increased in size, until, from the great inconvenience it caused him, he decided to have it amputated. The enlargement commencing about three inches below the knee-joint, it was decided by Drs. Gooding and Greaves to preserve the joint. Whilst amputating, but little blood was lost, but some four pints of lymph escaped. The man survived the operation only nine days, dying of pyæmia. The leg, after being preserved some time in alcohol, measures around the calf twenty-five and a half inches, instep twenty-one inches.

FRACTURE OF THE SPINE.

DR. SHEPHERD presented a specimen of fracture of the spine, which had been removed several days before by Dr. W. Johnston from a patient who had been under his care some three years before. The man, three winters ago, whilst cleaning the snow from the roof of a house, missed his footing, and fell to the pavement below, a distance of some fifty feet. He was immediately brought to hospital, and, on examination, it was found there was a fracture of the back in the lumbar region. There were great swelling and deformity of the parts and complete paralysis of sensation and motion of legs. He had also incontinence of urine. The patient remained in hospital some months, regaining, after a few weeks, partial sensation and motion. The deformity very much lessened after the effusion was absorbed. He was discharged from hospital in the spring of 1883, and could walk about fairly well. He even took a situation as coachman for some time after leaving hospital.

This spring he hired himself out as assistant gardener, and said, whilst digging one day, felt something give way. Then he had severe pain and some swelling at site of the old injury, and lost the power to use his leg. He was brought to hospital, and it was found there were some swelling and great tenderness at site of old injury in lumbar region, complete loss of sensation, and but little power of motion in lower extremities. After being in hospital a week or two, he developed phthisical symptoms, and was transferred to the medical wards. He died of phthisis a few days ago, and at the post-mortem the vertebræ of the lumbar and lower dorsal regions were removed. The specimen showed slight left lateral curvature, with moderate angular curvature opposite the second lumbar vertebra. On making a vertical section, the body of the second lumbar vertebra was seen to be partially absorbed, and a ring of bone encroached upon the cord at this spot. There was a fracture of the spines of the second and third lumbar, and the intervertebral substance between these two vertebræ had completely disappeared. There appeared to have been a fracture, also, of the lamina of the second

lumbar. The cord and membranes disclosed nothing to the naked eye, and were removed for further examination.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, November 24, 1885.

THE PRESIDENT, CHARLES MCBURNEY, M.D.,
IN THE CHAIR.

DR. C. T. POORE read a paper on

EXCISION OF THE TARSAL BONES.

Disease of the tarsal bones is not an uncommon occurrence among children who apply for admission into hospitals. The following paper is based upon nine cases operated upon at St. Mary's Free Hospital for Children. Although there is nothing very noteworthy in any of the cases taken individually, yet when taken together they form a group from which one may draw a few practical deductions.

The following plan of operation was followed in all but one case, to which reference will be made further on. After rendering the limb bloodless by an Esmarch bandage, if the os calcis is to be removed, an incision is made from a point corresponding to the inner edge of the tendo Achillis and about an inch above its insertion, outward and then forward on the outer aspect of the foot to a point midway between the external malleolus and the proximal end of the fifth metatarsal bone, the incision being made directly down to the bone. The only tendons denuded are the tendo Achillis and that of the peroneus longus where it passes over the lateral surface of the os calcis. No vessel of any size requiring ligature is divided. The incision will be found to afford plenty of room. The periosteum is then divided and separated from the bone as far as possible with an elevator; it will then be found that the bone can be removed either as a whole or in pieces, the ligaments being divided as they present themselves. After removing all the bone and well washing out the cavity left by the operation, the constricting bandage is removed, and any bleeding points secured. The edges of the incision are brought together with silver wire, except at the posterior part of the wound, which is left for a drainage tube. I use silver wire because, in my experience, it is often necessary to hold the parts in coaptation longer than can be done with catgut. The foot is usually put up in a tin leg splint with a foot-piece at right angles to the leg. The cavity left after the removal of the bone is in some cases swabbed out with chloride of zinc, in others dusted over with iodoform. None were put up in a permanent dressing. The following is an abstract of the cases.

Case I.—F. M., three years of age, came to the hospital in 1874. She was an unhealthy-looking child. There was a large sinus from which there was a considerable discharge, situated upon the dorsal aspect of the right foot over the upper border of the cuboid bone. There was also disease of the first metacarpal bone of the left hand.

In September, 1874, the patient was etherized, and the disease was found to be confined to the os calcis. This was freely gouged, so as to remove all diseased bone. The portion left seemed hard and was supposed

to be healthy. In January, 1875, as the wound did not close, some more diseased bone was removed. In April, as the foot was no better, an incision was made by splitting the tendo Achillis and then extending the incision forward upon the plantar surface of the foot, so as to afford room to remove the remains of the os calcis. The cavity thus left was stuffed with lint. The wound gradually filled up and she was discharged with her foot in good condition, the heel somewhat flattened and with a deep cavity behind.

Upon examination, November 1, 1885, eleven years after the operation, the foot was found in good condition. There had been no return of disease, no pain about it, and the child walked with but a very slight limp, scarcely perceptible. The heel, where there was a deep depression at the time of discharge, had filled out, so that the point of excision was represented by a mere line, occupying the posterior rather than the plantar aspect of the foot. The contour of the heel had filled out. There was obliteration of the plantar arch. I do not think that there had been any reproduction of bone.

Case II.—M. D., aged three and a half years, had had disease of the os calcis for some time. The bone had been gouged twice before coming to the hospital, but without any permanent relief. He was a healthy-looking boy. There was a sinus on the external aspect of the foot over the os calcis, through which diseased bone could be detected. In February, 1879, the old line of incision was reopened. There was found a sinus in the os calcis leading to a cavity in which was a loose piece of bone about the size of a filbert. The walls of this cavity were smooth and hard. The necrosed bone was removed, and the wound closed, in the expectation that the cause of irritation being removed recovery would take place, but after a time the parts assumed the same condition that existed before the operation. In May the bone was excised. It was found harder than normal. After the last operation the patient made a good recovery, and was discharged walking well. He has not been seen since his discharge from the hospital.

Case III.—M. R., aged seven years, was admitted February, 1879. Three months previous she began to complain of pain in the heel of the right foot. It then began to swell, and three weeks before coming under observation an abscess opened posteriorly, and has continued to discharge since. Diseased bone could be detected with the probe. In March the os calcis was removed. It was found entirely diseased. She was discharged from the hospital in June, able to walk well. She was seen November 29, 1885, when she walked well, with scarcely a limp, had no pain, and the old line of incision had not reopened. About one year ago, five years after leaving the hospital, an abscess formed on the dorsal aspect of the foot, and has continued to discharge ever since. There is now a sinus at this point. The patient seems healthy, and experiences no inconvenience from the foot. I presume there is diseased bone. There has been some reproduction of the os calcis.

Case IV.—Sarah J.; four years before admission received a cut on the plantar surface of her right foot from a piece of glass. The wound has never closed. Three years ago some diseased bone was removed, and since then several small pieces have come away. In

November, 1879, the os calcis was removed. The bone was extensively diseased. In February she was discharged, able to walk well.

A week after her discharge she was brought to the hospital with a superficial abscess about the point of operation, caused, it was said, by walking with a badly fitting shoe. She was sent home in a few days. In May, 1883, her friends reported that she had had no further trouble, and that she walked well.

Case V.—C. R., ten years old, came to the hospital March, 1881, with the following history: Six months before, without known cause, a swelling appeared at the back of the heel, an abscess formed and opened, and has continued to discharge ever since. The os calcis was removed, and was found to be much diseased. He was sent home in June with a useful foot. Was seen November 20, 1885. There has been no change in the foot since leaving the hospital; can walk well, with but little, if any, limp, and is now employed as an errand boy in an apothecary's shop. There is, however, limited motion at the ankle-joint. There does not appear to have been any new bone formed.

Case VI.—Peter H., an unhealthy-looking boy, about six years of age, was admitted September, 1881. He had disease of the right os calcis, and carious bone in various portions of his body. In October the os calcis was removed. He did well for a time, then his foot began to swell, the old line of incision opened, and he was in a worse condition than before the operation. Other tarsal bones became involved in the disease. The bones were gouged, but with no improvement. In March, 1883, Syme's amputation was performed. The flap did well for a time, but finally sinuses began to form, and he was removed from the hospital. On examining the parts after removal, there was found considerable reproduction of bone.

Case VII.—K. A., three years of age, was admitted January, 1882, with disease of the os calcis of some duration. The bone was removed February, 1882. She was discharged April 20, the wound all closed, and able to walk well. Nothing has been heard from her since she left the hospital.

Case VIII.—Joseph M., six years of age, came under observation in February, 1882, with a history of disease of the bones of the left foot of some duration. There was a sinus over the astragalus through which carious bone could be detected. The foot was much swollen. On March 20, 1882, the sinus over the astragalus was enlarged, and that bone removed by gouging. It was then found that the anterior portion of the os calcis was diseased. The anterior two-thirds were removed through an incision on the external aspect of the foot, leaving the posterior portion of that bone. The foot did well for a time, the anterior part of the incision closing, but a sinus persisted posteriorly. In October, as the portion of the os calcis left was evidently diseased, it was removed. After this the wound closed, and he was discharged with a sound and useful foot. He has not been heard from since.

Case IX.—Edward L., two and a half years of age, was admitted September, 1882, with an extensive swelling on either side of the left ankle-joint. Fluctuation was marked. He had been lame for some months. The abscess in the ankle-joint was opened under ether. The lower end of the tibia and the articular surface of

the astragalus were found denuded of cartilage. The diseased bone was gouged and the joint drained. The abscess continued to discharge for some time, and then the sinus closed about the ankle-joint, but a new opening formed over the anterior surface of the astragalus in front of the ankle-joint. Later, the astragalus and os calcis, which were found diseased, were removed. At the time of the operation there was no disease about the end of the tibia, and the bone was well covered. Patient was discharged from the hospital with a useful foot, all sinuses being closed. November 19, 1885, he was seen at the hospital. He has had no trouble with the foot since, can walk well with a slight limp. The end of the tibia occupies a lower plane than that of the sound limb, so that the ankle-joint is depressed. There has been some reproduction of bone.

Of these nine cases, the os calcis was alone removed in seven, the os calcis and astragalus in two. A useful foot was obtained in eight, and in one amputation had to be performed. In but one of these eight cases has there been any return of the disease in the other tarsal bones, and in this, not until five years after the operation. All but three cases have been seen or heard from within the past year, and in all, with but one exception, the foot has continued in good condition, and the patient able to walk and be about with other children without any inconvenience except a slight limp. In all, there has been obliteration of the plantar arch, and a tendency to walk upon the inner border of the foot. All complain that the inner side of the shoe is worn out first, but there has been no pain.

In regard to a partial removing or gouging of the os calcis for disease, my own experience has not been flattering: although a faithful trial of this procedure was made in four cases, no permanent cure was obtained, and only after total extirpation of the diseased bone did the sinus close. In one case the bone had been operated upon three years before admission, with no apparent benefit.

Case II., where there existed a sinus leading into the centre of the os calcis, in which was imprisoned a loose piece of dead bone, seemed very favorable for such an operation, yet the operation failed to arrest the disease and a total excision of the bone had finally to be performed. In another case the posterior third of the os calcis was left, it being apparently healthy, but recovery did not take place until this, too, had been removed. I am well aware that others have obtained good results from partial excision or gouging, but perhaps it was in older subjects and under more favorable circumstances. My own experience is entirely opposed to a partial operation in children. Perhaps one cause of the want of success in these cases is the fact that the bone was sclerosed and incapable of filling up the cavity left by gouging.

I have never made a resection of the ankle-joint in children; although I have seen some cases of disease of this articulation in which the lower end of the tibia and fibula were extensively diseased, they made a good recovery.

DR. H. B. SANDS said that it seemed to him that a distinction must be drawn between tubercular inflammation and osteomyelitis of the os calcis. So far as he had been able to judge while listening to the paper

just read, Dr. Poore had reported only one case of true necrosis of the bone. In this there was a cavity with healthy walls, enclosing a piece of dead bone, which was removed by operation because the cavity would not close.

It was further stated that in this case when the os calcis was removed it was found to be firmer than normal, which would imply that it was not carious, and that the previous failure to obtain a cure was, as Dr. Poore had intimated, due to a refusal on the part of the bony cavity to fill up.

Dr. Sands doubted the necessity of removing the entire os calcis in cases of necrosis unless the necrotic process involves the entire bone, the indication being to remove only the loose sequestra. He recalled a case which occurred about fifteen years ago in a lad ten years of age, who was supposed by Dr. Van Buren, Dr. Parker, and himself, to be suffering from caries of the tarsus. There were several sinuses in the foot, and it was advised that the foot should be amputated. But an exploratory incision was made, and the os calcis was found to be a shell containing a large number of pieces of dead bone within a cavity which had a smooth lining such as is usually found in bones containing necrotic tissue. The pieces of dead bone were removed, and, although the walls of the os calcis were exceedingly thin, the cavity filled up within a few months, and the wound healed.

He had not had much experience in dealing with the os calcis in children, but in adults he thought partial excisions are often successful. He was somewhat surprised to learn that caries is so often limited to the os calcis. His own experience had been that this disease is rather apt to attack the astragalus and scaphoid, and other bones of the tarsus, rather than the calcaneus alone. He thought the tendency nowadays is to avoid excisions in cases of caries, and that the use of the gouge or the sharp spoon often gives satisfactory results, and enables the surgeon to be conservative to the fullest extent.

He believed that in one of the children presented the condition of the foot corroborated the statement which he had made a month ago, that after the removal of a large portion of the tarsal bones, provided the periosteum is left, considerable reproduction will occur. It was evident in that case that, although the entire os calcis had been removed, there had been a considerable reproduction of bone. It seemed to him to be a point worthy of consideration whether, in caries, excision should be preferred to an operation which is partial and which aims to remove only the diseased tissues. It may occur, however, that if a large part of the interior of the os calcis is removed the space may remain open, although much may be done to overcome that difficulty by nailing down the parts or fastening them by deep sutures. He was willing to admit, however, that the results obtained in Dr. Poore's cases were excellent.

DR. POORE said that almost all the cases he had reported were in the hospital for a long time, and that in those in which gouging had been performed the interval between the gouging and excision was in some cases one year at least. He had given the cases all the chances of recovery he could, but as suppuration had

continued and the condition of the tarsus had not improved, and small pieces of bone had worked out, he resorted to excision.

DR. SANDS asked whether it is good practice to leave a case for one year after an operation. Is it not rather desirable to follow one operation by another with a view to removing all the diseased tissue as quickly as possible?

DR. POORE said he performed gouging in one case four times within one year. He had been very much disappointed in this operation. He certainly expected to see some cases get well after performing it, but he had never seen such a result. It might be because he had dealt with young children, the patients having been mostly under four years of age.

DR. LANGE recalled a very limited number of tuberculous affections of the os calcis and astragalus in which the disease was so limited that it was not necessary to remove the bones entirely. He had one such case where the principal seat of the disease was the bones of the ankle-joint, and there was also a tuberculous sequestrum in the os calcis which was removed, and the entire shell of the bone left, and finally recovery took place. He thought that in a good many cases of tuberculous necrosis recovery would eventually take place after sequestrotomy and scraping. It seemed to him that in Dr. Poore's cases a striking point was the difference between the reproduction of the os calcis and the astragalus—that is, there had not been a reproduction of the astragalus. In some of his own cases of total excision of the ankle-joint he had observed the same thing, and it was this probably which caused the amount of shortening in Dr. Poore's cases.

He had twice excised the first and second rows of tarsal bones during his service in Bellevue Hospital, and also cut away the surface of the os calcis and astragalus in one instance; in the other the extirpation was not so extensive: the result was a good one, although the patient was an adult person. The result in the first case he could not give, for the patient was removed from the hospital because she refused a secondary operation. The results of other surgeons are rather encouraging for operative interference—for instance, those reported by Neuber some years ago.

NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

TRICHINOSIS.—The occurrence of eight cases of trichinosis among the members of a German family, who had previously enjoyed themselves at a birthday feast in which raw ham figured, is reported. There have been but four cases of the disease in this city since its discovery, and it would seem that imported ham was responsible in every instance.

A COCKROACH IN THE EAR.—Dr. Samuel Sexton, author of the admirable article in *Nature* the other day upon tinnitus as a disturbing factor in auscultation, recently presented to his class a case in which a cockroach was found in either ear. The boy had complained for four days of a "kicking noise," and examination revealed a very lively roach in the right ear. He referred to symptoms of the same kind from which he

had suffered four years before; a further search revealed a second dead cockroach in the other ear.

FOUR CASES TO BE SENT TO PASTEUR FOR INOCULATION.—Four little children are to be sent to Pasteur for inoculation with the virus of hydrophobia, they having been bitten by mad dogs in Newark, New Jersey. They sail this week in the "Canada" in charge of Dr. Billings. Considerable rivalry seems to be manifested in the desire to manage the expedition, Mr. Carnegie, who founded the Bellevue Hospital Pathological Museum, having offered to defray all the expenses provided Dr. Biggs, of that institution, be permitted to engineer the enterprise.

THE COCAINE HABIT.—The case of the Chicago physician, whose exploits with coca have furnished the enterprising newspaper reporter with meat and drink for several days, has drawn forth an interview with a well-known throat specialist, who is in the habit himself of taking daily no less than twenty-five grains. He declares it a delightful stimulant, and states that no appetite has been so far formed.

MONTREAL.

(From our Special Correspondent.)

THE SMALLPOX EPIDEMIC.—The deaths from smallpox during the month of November reached the large number of 874. Still this is only a little more than half the number (1630) of deaths which occurred during the month of October. Up to the end of November the total number of deaths from smallpox was 3513. The hospitals are still full, and new wings are being opened. The old Hospital of St. Roch's is still occupied, notwithstanding the protests made by the Visiting Governors of the College of Physicians and Surgeons of Quebec Province. Among other things, they said: "Dirt, foul smells, and mismanagement are the characteristics of St. Roch's Hospital." Many patients who have been treated in St. Roch's have given most horrible details of the condition of the hospital and the methods of treatment. It is a perfect black hole of Calcutta, according to many. The doctor was incompetent, the nurses inefficient and neglectful, and the food (so-called) disgusting. Many dying patients could not get a drink of water. Still the Health Board deny everything, and endeavor to make the public believe that it is a perfect sanitarium, and no fault can be found with it, or the incompetent staff that run it. However, the profession are perfectly convinced that the place ought to be shut up, or rather burned down, and all the cases sent to the new hospital, where the air is good, the attendance fair, and there is plenty of room. I fear that we shall have smallpox with us for some time yet, as no efforts are being made to vaccinate the twenty French Canadian babes that are daily arriving and growing up unvaccinated. Fuel is thus continually being added to the flame. Until registration and vaccination are compulsory, smallpox, like the poor, will be always with us.

MEDICAL DINNER.—The annual dinner of the Undergraduates in Medicine was held on Thursday, the 3d of December, and was a most successful affair. About two hundred sat down, including several prominent citizens and public men.

MCGILL UNIVERSITY.—There are two hundred and sixty-five students attending the classes of the Medical Faculty of McGill University this session.

LONGUE POINTE ASYLUM.—The Longue Pointe Lunatic Asylum is still in a most unsatisfactory condition. The government, stimulated by Dr. Hack Tuke's *exposé* of the state of affairs at this asylum, appointed two additional medical men to look after the interests of the patients, and to treat them as they thought best. The sisters in charge of the asylum refused to accept those appointments, and continued on their own medical man, who is a mere tool in their hands, and also appointed an additional physician. Heretofore the patients have had no medical treatment except that prescribed by the nuns, the medical men being mere ciphers, and the government physician having power merely to admit and discharge patients. It was the intention of the government to give the patients proper medical treatment, but the sisters seem to have the upper hand, and simply defy the government, with whom they have a twenty-one years' contract to farm the lunatics. Of course the government, by stopping the supplies, could put an end to this state of affairs, but they have neither the desire nor courage to fight with such a powerful corporation as the Sisters of Providence de St. Jean de Dieu, backed by the whole Roman Catholic Church. We hope that in time the darkness of ignorance and superstition which now envelops us may be dispelled by the enlightenment, if not of the nineteenth, at least of that of the twentieth century. Then smallpox will be a dim tradition, and lunatics will be treated like human beings.

THE INTERNATIONAL MEDICAL CONGRESS OF 1887.—A meeting of members of the medical profession interested in the International Medical Congress in 1887, to which prominent medical men from a number of cities were invited, was held at the Hall of the College of Physicians, Philadelphia, December 4, 1885, Dr. D. Hayes Agnew in the Chair.

It was stated that official notice had been given of the election, as members of the present Executive Committee of the Congress, of Drs. J. S. Billings and J. M. Browne, of Washington, D. C.; Christopher Johnston, of Baltimore; George J. Engelmann, of St. Louis; and J. M. Da Costa and William Pepper, of Philadelphia.

A general and strong expression of opinion was made in support of the American Medical Association and its Code of Medical Ethics, and sincere regret was expressed that hasty action on the part of the Association, and the introduction of false issues, had imperilled the success of the Congress. It was made entirely evident, however, that the acceptances of the above elections would not be regarded as affording any adequate guarantee for the future scientific conduct of the Congress, and consequently would not be followed by any coöperation on the part of the leading members of the profession now unwilling to join in that work. As an evidence of the earnest desire which is felt for the restoration of harmony upon this subject, and for the reorganization of the Congress on a basis which would command general support, and thus insure success, the view was unanimously expressed that if the present Executive Committee should unite with themselves the Original

Enlarged General Committee, and recommence the organization *de novo*, this course would insure the desired result.

THE EXECUTIVE COMMITTEE OF THE CONGRESS.—The present Executive Committee, acting under the provision by which its membership may be increased to thirty, elected, at a meeting held in New York last month, Drs. J. S. Billings, U. S. A.; J. M. Browne, U. S. N.; Christopher Johnston, of Baltimore; Geo. J. Engelmann, of St. Louis; J. M. Da Costa and William Pepper, of Philadelphia, of the Original Committee, We are informed that all these gentlemen have declined to accept the appointments.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 1 TO DECEMBER 7, 1885.

POLHEMUS, A. S., First Lieutenant and Assistant Surgeon.—Relieved from duty at Presidio of San Francisco, California, and ordered for duty as Post Surgeon at Fort Halleck, Nevada, relieving Acting Assistant Surgeon Loven N. Clark, United States Army.—*S. O. 113, Department of California*, November 30, 1885.

VICKERY, R. S., Major and Surgeon.—Relieved from the assignment as Acting Medical Director, Department of Colorado, to date, the 16th instant.—*S. O. 200, Department of Colorado*, November 23, 1885.

BIRMINGHAM, H. P., First Lieutenant and Assistant Surgeon.—Ordered for duty at Camp Grant, Riverside Park, New York City.—*S. O. 256, Department of the East*, December 4, 1885.

BUSHNELL, GEO. E., First Lieutenant and Assistant Surgeon.—Ordered for duty as Post Surgeon, Fort Preble, Maine.—*S. O. 256, Department of the East*, December 4, 1885.

WILSON, WM. J., Captain and Assistant Surgeon.—Ordered for duty as Post Surgeon, Plattsburg Barracks, New York.—*S. O. 256, Department of the East*, December 4, 1885.

APPEL, D. M., Captain and Assistant Surgeon.—Ordered for duty at Jackson Barracks, La.—*S. O. 256, Department of the East*, December 4, 1885.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING DECEMBER 5, 1885.

AULICK, HAMPTON, Surgeon.—Ordered to "Alliance" as relief of Surgeon G. P. Bradley.

BRADLEY, GEO. P., Surgeon.—Ordered to Naval Hospital, Philadelphia.

SHAFER, JOSEPH, Assistant Surgeon.—Detached from Naval Hospital, Philadelphia, and ordered to "Minnesota."

GAINES, J. H., Passed Assistant Surgeon.—Detached from Naval Hospital, Washington, and ordered to the "Dolphin."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING DECEMBER 5, 1885.

WYMAN, WALTER, Surgeon.—Granted leave to attend meeting of American Public Health Association, December 3, 1885.

BENSON, J. A., Passed Assistant Surgeon.—Granted leave of absence for fifteen days, November 28, 1885.

ARMSTRONG, S. T., Passed Assistant Surgeon.—Granted leave of absence for eight days, November 30, 1885.

WASDIN, EUGENE, Assistant Surgeon.—Granted leave of absence for thirty days, November 28, 1885.

WATKINS, R. B., Assistant Surgeon.—To proceed to Galveston, Texas, for temporary duty, November 30, 1885.

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 1004 Walnut Street, Philadelphia.